SUBJECT: AIR MEDICAL TREATMENT PROTOCOL –INTRODUCTION **Date: 07/01/2003**

INTRODUCTION

These Protocols define the basic and advanced life support treatment and disposition standards for Prehospital Air Medical Care in San Diego County.

1. Each Advanced Life Support Air Medical Flight Crew will consist of at a minimum, one Registered Nurse and one Physician, Registered Nurse or Emergency Medical Technician-P. Each Basic Life Support Flight Crew will consist of at a minimum one EMT-1.

2. Treatments are listed in sequential order for each condition. Adherence is recommended. All skills follow the criteria in the skills list.

3. All treatments may be performed by the Flight Nurse on standing order unless noted. Any treatment required which is not included in the protocols is at the discretion of the Flight Physician on scene or Base Hospital Physician at the assigned Base Hospital in direct radio communication providing medical direction. Orders not included in the protocols must be within the knowledge, skill, education level and scope of practice of the Flight Nurse.

4. Interfacility transport orders will be given by the physician providing medical control for the patient.

5. The Flight Paramedic will function within the scope of practice and protocols set forth by San Diego County EMT-P Protocols and Skills list and under control of the assigned Base Hospital. All treatments within the San Diego County EMT-P Protocols and Skills may be performed by the Flight Paramedic on standing order unless otherwise noted.

6. The Flight EMT-1 will function within the scope of practice and protocols set forth by San Diego County EMT-1 BLS Protocols and under the control of the assigned Base Hospital.

Approved:

EMS Medical Director

SUBJECT: ADVANCED AIR MEDICAL TREATMENT PROTOCOL -- SKILLS LIST **Date: 07/01/2003**

SKILLS LIST

SKILL	INDICATION	CONTRAINDICATION	COMMENTS
Blood sampling Venous/capillary	To obtain blood sample prior to administration of glucose product, to access blood sugar or obtain sample for law enforcement.	None	Can be obtained by direct venipuncture or through IV catheter. Refer to venous access devices.
Broselow Tape	Calculation of pediatric drug dosages.	None	Base dosage calculation on length and weight of patient. Dose may vary per protocol.
Cardioversion: synchronized	Unstable SVT	If defibrillator unable to deliver <4j//kg	Unstable=chest pain, dyspnea, systolic BP≤90mmHg or altered LOC. Start at 100ws increase to 200, 300, 360w/s as needed. Remove NTG patch prior to cardioversion.
	Unstable VT		
	Unconscious VT with BP≤80 mmHg		
	Unstable Uncontrolled Atrial Fibrillation		Ventricular response ≥180, hypotension and decreasing LOC.
Carotid Sinus Massage (CSM)	Stable SVT	None	Avoid carotid with weakened pulse. D/C after 5-10 sec if no conversion. Caution with ?CVA/TIA/elderly patients.
Chest Auscultation	All patient encounters except isolated minor extremity injuries	None	Priority in patients with SOB, chest pain, trauma, and prior to and following any medication which could affect lung sounds. Always following intubation and movement.
Chest Tube Insertion	Patients with potential or suspected pneumothorax/hemo-thorax/ tension pneumothorax	None	Insert chest tube at 4th/5th ICS anterior axillary/mid axillary line. Attach Heimlich valve for transport with drainage system prn.
Communication: Radio	Base Hospital contact	None	Modes of communication include: mobile radios, EMS radio. Must contact assigned BH for orders not within protocols for prehospital patients.
Defibrillation	VT (pulseless) VF	None	Start at 200 j. Repeat 200-300j x1, then 360j prn if no conversion.

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EMS Medical Director

SKILL	INDICATION	CONTRAINDICATIONS	COMMENTS
Dermal Medication	NTG	Profound shock, CPR, Peds	Avoid application to areas that may be used for cardioversion.
EKG monitoring	Any situation with potential for cardiac dysrhythmia.	None	Apply monitor before moving patient with chest pain, syncope, or in arrest when possible and document strip on record.
12 lead EKG (optional)	Signs and symptoms of pain/discomfort of ?cardiac origin .	None	Consider thrombolytic checklist. Document strip on record.
End Tidal CO_2 Detection Device	ET Intubation	None	Monitor after ET insertion and after each time pt is moved. Less accurate in pulseless rhythms.
Esophageal Detection Device-aspiration based (Toomey syringe or bulb device)	After intubation and for reconfirmation of placement.	None	Repeat as needed to reconfirm placement. Use for both ET tube and Combitube.
External Pacing	Symptomatic bradycardia, heart block.	None	Document rate, MA and capture.
Glucose Monitoring	Evaluate blood glucose level in diabetics, OD, seizure, altered LOC, ?CVA, behavioral patients.	None	Follow monitor instructions exactly.
Injection: IM	When IM route indicated.	None	Usual site deltoid Vastus lateralis preferred in infants.
Intubation- ET/Stomal	Apnea or ineffective respirations for unconscious patient or decreasing LOC, or newborn deliveries as indicated. Consider RSI as indicated. Replace Combitube with ET only if: ventilations inadequate, need ET suction or need to give ET medications.	Prior to Narcan in symptomatic ?OD	Must not interrupt ventilations for more than 30 sec. Use Broselow Tape recommendations for uncuffed tube on peds and immobilize spine. Newborn ventilate if HR<100, if HR still low after 1" of ventilation, intubate. Auscultate both lung fields. Document SDBREATHE Reconfirm placement of tube after each patient movement

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EMS Medical Director

SUBJECT: ADVANCED AIR MEDICAL TREATMENT PROTOCOL -- SKILLS LIST **Date: 07/01/2003**

SKILL	INDICATION	CONTRAINDICATIONS	COMMENTS
Combitube	Unable to intubate w/ ET	Gag reflex present. Patients < 4" tall. Narcotic OD prior to Narcan. Ingestion of caustic substance. Hx of esophageal disease.	Head in neutral position. Use SA size tube in patients 4 - 5'6" tall. Use regular size > 5' tall. (Note height overlap) Document BART. Reconfirm tube placement with each patient movement.
Magill forceps	Airway obstruction from foreign body with decreasing LOC or unconsciousness.	None	Once object removed, give high flow O_2 If unsuccessful consider cricothyrotomy
Needle Cricothyrotomy	Airway obstruction	None	Attempt to remove foreign body prior to attempting procedure.
Needle Thoracostomy	Signs and symptoms of tension pneumothorax - may include severe respiratory distress, cyanosis, absent breath sounds, hypotension	None	Use 12, 14g, 16 or 18g IV catheter 2-5" long into 4^{th} or 5^{th} ICS in anterior axillary line, on involved side. If lateral chest wall is inaccessible, use 2^{nd} /3^{rd} ICS midclavicular line on involved side. Tape catheter hub securely to chest wall & attach to one-way valve.
NG/OG tube	Uncuffed intubations, near drowning, newborn or any CPR when gastric distention interferes w/respirations.	Severe facial trauma. Known esophageal disease	Caution w/unconscious pt w/o gag reflex.
O_2 Powered Nebulizer	Administration of Albuterol/Atrovent for bronchospasm or Epinephrine for croup-like cough.	None	Flow rate 6 l/min. Do not use w/ humidifier.

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SUBJECT: ADVANCED AIR MEDICAL TREATMENT PROTOCOL -- SKILLS LIST **Date: 07/01/2003**

SKILL	INDICATION	CONTRAINDICATIONS	COMMENTS
Pericardio-centesis	Signs and symptoms of cardiac tamponade	None	Insert to L of costal margin and xiphoid. Insert catheter with 25cc syringe attached bevel up 1cm left of xiphoid tip. Direct catheter toward toward L scapula. Maintain negative pressure on syringe. When fluid encountered, aspiration of minimal fluid may result in improvement. Remove stylet and attach stopcock and stabilize. Re-aspirate as needed.
Precordial thump	Witnessed arrest	Immediate availability of defibrillator.	Quickly strike patient's sternum with closed fist
Prehospital Pain Scale	All patients with a traumatic or pain-related chief complaint	None	Assess for presence and intensity
Prehospital Stroke Scale	All adult patients with suspected Stroke/CVA	None	Assess facial droop, arm drift and speech
Pulse Oximetry	Monitor patients to assess oxygenation.	None	Unreliable in CO poisoning, poor perfusion states or anemia.
Rapid Sequence Intubation	Compromised airway in patients with gag reflex, clenched jaw, combativeness or with GCS of 8 or less.	None	Preoxygenate prior to attempt. Consider premedication with Lidocaine. Administer Etomidate for sedation Administer Atropine to infants and children May hold for relative tachycardia. Administer Succinylcholine as paralytic agent. Attempt oral intubation. If unsuccessful attempt combitube or cricothyrotomy Verify placement of tube. Administer Versed for sedation-may hold for hypotension. Consider MS for pain Consider long acting paralytic post intubation.
Restraints	Threat of harm to self/others	None	Document circulation distally every 15min. Consider chemical restraint. If patient uncontrollable or a risk to flight crew consider ground transport. See Policy S-422

Approved:

EMS Medical Director

SKILL	INDICATION	CONTRAINDICATION	COMMENTS
Spinal Immobilization	Spinal pain of ?trauma, MOI suggests ?spinal injury Intubated infants and children	None	Equipment that limits spinal movement. Pregnant patients (>6mo) tilt 30 degrees left lateral decubitus.
Splinting	Grossly angulated fractures, for transport	None	Use unidirectional traction. Check for distal pulses prior to and q15".
Suction: Oral- endotracheal	When secretions impair ventilation	None	Monitor for dysrhythmias
	Prior to spontaneous breathing of newborn	Spontaneous breathing	Suction mouth w/bulb syringe as head being delivered. Clamp cord only after suctioning.
Surgical Cricothyrotomy	Airway obstruction or facial trauma when oral intubation unavailable/unsuccessful	<12 yo	Stabilize trachea, incise skin 1" with scalpel. Consider use of tracheal hook. Incise cricothyroid membrane and dilate. Insert trach or ET tube. Ventilate. Stabilize and secure. Recheck breath sounds. Alternately may use Melker Kit as instructed.
Vascular Access Devices: Indwelling Catheter	Primary venous site for patients with indwelling catheters. Use for definitive therapy ONLY	Devices without external ports	Clear air carefully to avoid embolism. Aspirate and discard 5ml of blood prior to first use. Blood return will not be possible in one-way valve-catheters. Needleless systems may require adaptor.
Central: Femoral Subclavian	When a peripheral line or external jugular line cannot be established and venous access is needed.	None	
External jugular	When unable to establish other peripheral IV and venous access is needed.	None	Tamponade vein at end of catheter until tubing is securely attached to cannula end.
Extremity	Whenever venous access indicated.	None	Watch IV rate closely. Monitor lung sounds with fluid challenges.

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EMS Medical Director

SKILL	INDICATION	CONTRAINDICATION	COMMENTS
Vascular Access (cont) Intraosseous infusion device	Fluid/medication administration in critical patient when other venous access unsuccessful.	Fractured bone	Splint extremity. Observe for signs of extravasation. Don't insert into fracture site
Percutaneous dialysis catheter access (e.g. Vascath)	Unable to start IV elsewhere when needed for administration of fluid/medications. For life threatening definitive therapy ONLY	None	Infuse at a rate to support continuous flow and prevent backflow into IV line. Needleless systems may require adaptor. Aspirate and discard 5 mls of blood prior to first use.
Vital signs: Routine	All patient assessments	None	Palpate BP only when NIBP or auscultation not possible.
Orthostatic	Medical chief complaint Suggestive of hypovolemia		Must obtain systolic and diastolic BP in supine and standing position. Take BP and P in supine position, have patients sit up and repeat BP and P; Suggestive findings of ? hypovolemia are: 1. Decrease in diastolic pressure And/or 2. Increased HR And/or 3. Dizziness/lightheadedness. If patient becomes dizzy, lay patient down and do not complete orthostatic VS check.

Approved:

EMS Medical Director

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AIR MEDICAL MEDICATION LIST 07/01/2003

MEDICATION	INDICATIONS	DOSAGE / ROUTE	COMMENTS	CONTRA-INDICATIONS
ADENOSINE	SVT	6mg rapid IVP follow with 20ml NS. Then 12mg rapid IVP follow with 20ml NS, MR X 1.	Use with extreme caution in patients with history of bronchospasm or COPD. Administer rapid IVP	Second or third degree AV block Sick Sinus Syndrome (without pacemaker)
ALBUTEROL	Respiratory distress with bronchospasm Allergic Reaction Burns	6ml 0.83% via nebulizer. MR as necessary.	Inhalation continuous via O_2 powered nebulizer	
AMIODARONE	Stable VT Unstable VT/Pulseless VT/VF	150 mg over 10 minutes MR X 1 in 10 minutes 300mg, followed prn by 150 mg over 10 minutes.	**Consider** Amiodarone Drip 0.5 –1 mg per minute **post conversion** rhythm converts after Amiodarone.	
APRESOLINE	Pregnancy Induced Hypertension	5mg IV over 10" MR x 2 q 20" Titrate to BP diastolic = 90-100mmHg.		Coronary artery disease Mitral valve disease
ASPIRIN	Pain of ? cardiac origin	324mg chewable PO		Hypersensitivity
ATIVAN	Altered Neurologic Function-Seizures Behavioral Emergencies Envnomation Injuries Obstetrical Emergencies--Seizures	1-2 mg IV/IM MR to a max of 4 mg		

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AIR MEDICAL MEDICATION LIST 07/01/2003

MEDICATION	INDICATIONS	DOSAGE / ROUTE	COMMENTS	CONTRA-INDICATIONS
ATROPINE SULFATE	Asystole PEA HR <60 after Epinephrine dose Unstable Bradycardia HR<40 Ventricular Ectopy in the presence of Bradycardia Organophosphate poisoning RSI Associated bradycardia	1mg IVP **OR** 2mg ET (max 3mg absorbed dose) 0.5-1 mg IVP **OR** 1-2 mg ET max 3 mg absorbed dose 2 mg IV, IN MR q 1 minute prn **OR** 4 mg ET 0.01 mg/kg IVP/IM (0.1 mg minimum dose)		
ATROVENT	Respiratory Distress with Bronchospasm Severe Respiratory Distress with Bronchospasm Allergic reaction Burns	2.5ml 0.02% via nebulizer	Added to first dose of albuterol via continuous O_2 powered nebulizer	
BENADRYL (DIPHENHYDRAMINE)	Allergic reaction Anaphylaxis Extrapyramidal reaction	50mg IVP 50mg IM	IVP - administer slowly	
CALCIUM GLUCONATE	Suspected hyperkalemia in hemodialysis patient in presence of widened QRS complex and peaked T waves Symptomatic Black Widow Spider Bites	10 ml IVP (4.6 mEq) 10 ml IVP (4.6 mEq)		

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AIR MEDICAL MEDICATION LIST 07/01/2003

MEDICATION	INDICATIONS	DOSAGE / ROUTE	COMMENTS	CONTRA-INDICATIONS
CHARCOAL-ACTIVATED (no Sorbitol)	Ingestion	50GM PO	Charcoal is ineffective with alcohol, heavy metal, lithium and iron	Iron ingestion No gag reflex, decreased LOC, or uncooperative.
D_{50} (Dextrose 50%)	Symptomatic hypoglycemia in **known** diabetic: if BS <75mg/dl if BS unobtainable Symptomatic hypoglycemia in **unknown** diabetic: if BS <75mg/dl	25GM IVP, MR prn		
DOPAMINE HYDROCHLORIDE	Shock in presence of normovolemia Discomfort/Pain of ?cardiac origin with associated shock Anaphylaxis Bradycardia (after max Atropine)	400mg/250ml @ 5-40mcg/kg/min IV drip. Titrate BP=100-120mmHg systolic		
EPINEPHRINE	Pulseless rhythms _____ Allergic reaction _____ Respiratory Distress with Bronchospasm _____ Anaphylaxis	1:10,000 1mg IVP, MR q 3-5" **OR** 1:1,000 2mg ET, MR q 3-5" **OR** 1:1,000 10mg ETAD, MR q 3-5" _____ 1:1000 0.3mg SC, MR q 10" X2 (total 3 doses. _____ 1:1000 0.3 mg SC MR in 10 minutes _____ 1:10000 0.1-0.3 mg IVP MR q 10" to max of 0.5 mg	**SC:** Use with caution if patient ≥55yo and history of known cardiac disease	

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AIR MEDICAL MEDICATION LIST 07/01/2003

MEDICATION	INDICATIONS	DOSAGE / ROUTE	COMMENTS	CONTRA-INDICATIONS
EPINEPHRINE DRIP	Bradycardia with hypotension	1:1000 1 mg/250 mls NS @ 2-10 mcg/min.	Titrate to effect	
ETOMIDATE	To facilitate endotracheal intubation	20mg IVP Adult		
GLUCAGON	Unable to start IV in patient with symptomatic hypoglycemia in **known** diabetic: if BS <75mg/dl if BS unobtainable Unable to start IV in patient with symptomatic hypoglycemia in **unknown** diabetic: if BS <75mg/dl	1unit (1ml) IM		
INTRAVENOUS SOLUTIONS NORMAL SALINE (NS) **OR** DEXTROSE 5% WATER (D5W)	Definitive therapy or need anticipated	TKO IV drip, adjust per protocol		

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AIR MEDICAL MEDICATION LIST 07/01/2003

MEDICATION	INDICATIONS	DOSAGE / ROUTE	COMMENTS	CONTRA-INDICATIONS
LASIX (FUROSEMIDE)	Respiratory distress with rales with?cardiac etiology	20-100mg IVP		
LABETOLOL	Hypertensive Urgency Hypertension with CNS bleed Discomfort/Chest pain?cardiac origin with hypertension Afib/SVT - Stable	10-20mg IVP slow,MR @ 20-80mg q 10" to max of 300mg 2 mg/min IV drip titrate to BP 10-20mg IVP slow, MR @ 20-80mg q 10" 20 mg followed by 40 mg prn then 80 mg prn at q 10" intervals until rate controlled.		Asthma Cardiogenic shock Bradycardia Heart block BP <100mmHg
LIDOCAINE (XYLOCAINE)	VT VF/ pulseless VT Recurrent VF Post conversion from VT/VF with HR $\geq$ 60 bpm RSI (Caution if HR < 60 bpm)	1.5mg/kg IVP (no faster than 50mg/min) MR at 0.5mg/kg IVP q 8-10" to a max of 3mg/kg absorbed dose (including initial bolus). **OR** 3mg/kg ET, MR at 1mg/kg q 8-10" to a max of 3mg/kg absorbed dose (including initial bolus). For refractory VF, 2nd dose 1.5mg/kg in 3-5".	Adult doses should be given in increments rounded to the nearest 25mg amount. In the presence of shock, CHF or liver disease, the repeat bolus is recommended at 10" intervals.	

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MEDICATION	INDICATIONS	DOSAGE / ROUTE	COMMENTS	CONTRA-INDICATIONS
LIDOCAINE DRIP	Post Conversion	1-4 mg/min		
LIDOCAINE JELLY (2%) optional	Intubation or Nasopharyngeal airway	5ml	Apply to ET tube or nasal airway	
MAGNESIUM SULFATE	Torsades de Pointes Refractory VF Respiratory Distress with Bronchospasm _____ Pre-eclampsia Eclamptic seizures Premature Labor	1-2 GM IVP slow over 2-3” _____ 4 Gm IVP slowly then 1 Gm/hr IV drip		Heart block Respiratory depression
MANNITOL	In the presence of a severe head injury with the presence or development of the following symptoms: • Lateralizing motor signs • Posturing • Asymmetrical pupillary responses, not due to direct ocular trauma or by history	20% solution in 500ml NS, 0.5GM/kg IVP/IV drip		Systolic BP < 90 mmHg

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AIR MEDICAL MEDICATION LIST 07/01/2003

MEDICATION	INDICATIONS	DOSAGE / ROUTE	COMMENTS	CONTRA-INDICATIONS
MORPHINE SULFATE (MS)	Respiratory distess with rales ? cardiac etiology Pain management	2-20mg IVP 2-20 IM/IV 5-30 mg PO		
NARCAN (NALOXONE HCL)	Symptomatic ? Opioid OD excluding opioid-dependent pain management patients Symptomatic ?Opioid OD **IN** opioid dependent pain management patients	2 mg IV/IM/DirectIVP, MR Titrate 0.1 mg increments up to 2 mg IVP/or IM MR		
NITROGLYCERINE	Pain or discomfort of ?cardiac origin Respiratory distress with rales	0.4 mg, SL MR q 5 minutes	Use with caution in patients with borderline hypotension.	Suspected intracranial bleed Viagra use within 24 hours Shock CPR
NITROGLYCERINE INFUSION	Pain or discomfort of ?cardiac origin Respiratory Distress with rales	50 mg/250 NS IV @ 5 mcg/min. Increase q 5-10 minutes prn titrate to effect		
PHENERGAN	Nausea or vomiting	12.5 mg-25 mg IV/IM MRX1		
PITOCIN	Postpartum hemorrhage	20 units /1000 ml NS IV infusion @ max 250 ml per hour	May administer prior to delivery of placenta	

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AIR MEDICAL MEDICATION LIST 07/01/2003

MEDICATION	INDICATIONS	DOSAGE / ROUTE	COMMENTS	CONTRA-INDICATIONS
SODIUM BICARBONATE ($NaHCO_3$)	Pulseless rhythms Prolonged immersion in near drowning Tricyclic OD with widened QRS Hyperkalemia in hemodialysis patient Crush Injury	1 mEq/kg IVP MR 0.5 mEq/kg IV q 10” up to 1 mEq/kg IVP X 1		
SOLUMEDROL	Allergy / Anaphylaxis Respiratory distress Spinal Cord Injury	125mg IVP 30 mg/kg IVP, then 5 mg/kg IV drip over the next 23 hours		Head injury GCS $\leq$ 12
SUCCINYLCHOLINE	Neuromuscular blocking agent.	1-1.5mg/kg rapid IVP, MR **OR** 3-4mg/kg IM (not to exceed max dose of 150mg).	Use caution in known or suspected hyperkalemia.	
TERBUTALINE	Bronchospasm Premature Labor	0.25mg SC, MR q 15-30” 2.5mg/3 ml NS via nebulizer		
VECURONIUM	Neuromuscular Blockade	0.1 mg/kg IVP, MR		Unconfirmed airway

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AIR MEDICAL MEDICATION LIST 07/01/2003

MEDICATION	INDICATIONS	DOSAGE / ROUTE	COMMENTS	CONTRA-INDICATIONS
VERSED (MIDAZOLAM)	Sedation/Amnesia Post RSI sedation _____ Seizure _____ Behavioral emergency	2.5mg MR IV X2 _____ 0.1 mg/kg IVP, MR X 1 in 10 minutes. **OR** 0.2 mg/kg IM, to max of 10 mg MR X 1 in 10 minutes _____ 2-5 mg slow IVP, to max 5 mg	Attention to volume status and age.	

AIR MEDICAL PEDIATRIC DRUG CHART
A-217 07/01/2003

Weight	3 Kg	4 Kg	5 Kg	6 Kg	7 Kg	8 Kg	9 Kg	10 Kg	11 Kg	12 Kg	13 Kg	14 Kg	15 Kg
ET size	2.5-3.0	3.0	3.5	3.5	3.5	4.0	4.0	4.0	4.0	4.5	4.5	5.0	5.0
Defib	6j	8j	10j	12j	14j	16j	18j	20j	22j	24j	26j	28j	30j
Adenosine 3mg/ml 1st dose 0.1mg/kg	0.3mg (0.1ml)	0.4mg (0.1ml)	0.5mg (0.2ml)	0.6mg (0.2ml)	0.7mg (0.2ml)	0.8mg (0.3ml)	0.9mg (0.3ml)	1mg (0.3ml)	1.1mg (0.4ml)	1.2mg (0.4ml)	1.3mg (0.4ml)	1.4mg (0.5ml)	1.5mg (0.5ml)
Adenosine 2nd dose 0.2mg/kg	0.6mg (0.2ml)	0.8mg (0.3ml)	1mg (0.3ml)	1.2mg (0.4ml)	1.4mg (0.5ml)	1.6mg (0.5ml)	1.8mg (0.6ml)	2mg (0.7ml)	2.2mg (0.7ml)	2.4mg (0.8ml)	2.6mg (0.9ml)	2.8mg (0.9ml)	3mg (1ml)
Albuterol via O2 powered nebulizer 0.083%	3ml	3ml	3ml	3ml	3ml	3ml	3ml	3ml	3ml	3ml	3ml	3ml	3ml
Amiodarone 5mg/kg to max 150mg bolus	15 mg	20 mg	25 mg	30 mg	35 mg	40 mg	45 mg	50 mg	55 mg	60 mg	65 mg	70 mg	75 mg
Ativan 0.1mg/kg	0.3mg	0.4mg	0.5mg	0.6mg	0.7mg	0.8mg	0.9mg	1mg	1.1mg	1.2mg	1.3mg	1.4mg	1.5mg
Atrovent 1 unit dose C: 0.02%	2.5 ml	2.5 ml	2.5 ml	2.5 ml	2.5 ml	2.5 ml	2.5 ml	2.5 ml	2.5 ml	2.5 ml	2.5 ml	2.5 ml	2.5 ml
Atropine 0.02mg/kg **	0.1mg (1.0ml)	0.1mg (1.0ml)	0.1mg (1.0ml)	0.12mg (1.2ml)	0.14mg (1.4ml)	0.16mg (1.6ml)	0.18mg (1.8ml)	0.2mg (2ml)	0.22mg (2.2ml)	0.24mg (2.4ml)	0.26mg (2.6ml)	0.28mg (2.8ml)	0.3mg (3ml)
Atropine - RSI 0.01mg/kg	0.1mg (1.0ml)	0.1mg (1.0ml)	0.1mg (1.0ml)	0.1mg (1.0ml)	0.1mg (1.0ml)	0.1mg (1.0ml)	0.1mg (1.0ml)	0.1mg (1.0ml)	0.11mg (1.1ml)	0.12mg (1.2ml)	0.13mg (1.3ml)	0.14mg (1.4ml)	0.15mg (1.5ml)
Benadryl 1mg/kg	3mg (0.1ml)	4mg (0.1ml)	5mg (0.1ml)	6mg (0.1ml)	7mg (0.1ml)	8mg (0.2ml)	9mg (0.2ml)	10mg (0.2ml)	11mg (0.2ml)	12mg (0.2ml)	13mg (0.3ml)	14mg (0.3ml)	15mg 0.3ml)
Calcium Gluconate 1 ml/kg	4 ml	5 ml	6 ml	7 ml	8 ml	9 ml	10 ml	10 ml	10 ml	10 ml	10 ml	10 ml	10 ml

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** **ET dose double IV dose, add 2-3ml NS**

AIR MEDICAL PEDIATRIC DRUG CHART
A-217 07/01/2003

Weight	16 Kg	17 Kg	18 Kg	19 Kg	20 Kg	22 Kg	24 Kg	26 Kg	28 Kg	30 Kg	32 Kg	34 Kg
ET size	5.0	5.0	5.5	5.5	5.5	5.5	6.0	6.0	6.0	6.0	6.5	6.5
Defib	32j	34j	36j	38j	40j	44j	48j	52j	56j	60j	64j	68j
Adenosine 3mg/ml 1st dose 0.1mg/kg	1.6mg (0.5ml)	1.7mg (0.6ml)	1.8mg (0.6ml)	1.9mg (0.6ml)	2mg (0.7ml)	2.2mg (0.7ml)	2.4mg (0.8ml)	2.6mg (0.9ml)	2.8mg (0.9ml)	3mg (1ml)	3.2mg (1.1ml)	3.4mg (1.1ml)
Adenosine 3mg/ml 2nd dose 0.2mg/kg	3.2mg (1.ml)	3.4mg (1.1ml)	3.6mg (1.2ml)	3.8mg (1.3ml)	4mg (1.3ml)	4.4mg (1.5ml)	4.8mg (1.6ml)	5.2mg (1.7ml)	5.6mg (1.9ml)	6mg (2ml)	6.4mg (2.1ml)	6.8mg (2.3ml)
Albuterol via O2 powered nebulizer 0.083%	3ml	3ml	3ml	3ml	3ml	3ml	3ml	3ml	3ml	3ml	6ml	6ml
Amiodarone 5mg/kg to max 150mg bolus	80 mg	85 mg	90 mg	95 mg	100 mg	110 mg	120 mg	130 mg	140 mg	150 mg	150 mg	150 mg
Ativan 0.1mg/kg	1.6mg	1.7mg	1.8mg	1.9mg	2mg	2.2mg	2.4mg	2.6mg	2.8mg	3mg	3.2mg	3.4mg
Atrovent 1 unit dose C; 0.02%	2.5 ml	2.5 ml	2.5 ml	2.5 ml	2.5 ml	2.5 ml	2.5 ml	2.5 ml	2.5 ml	2.5 ml	2.5 ml	2.5 ml
Atropine 0.02 mg/kg **	0.32mg (3.2ml)	0.34mg (3.4ml)	0.36mg (3.6ml)	0.38mg (3.8ml)	0.4mg (4ml)	0.44mg (4.4ml)	0.48mg (4.8ml)	0.52mg (5.2ml)	0.56mg (5.6ml)	0.6mg (6ml)	0.64mg (6.4ml)	0.68mg (6.8ml)
Atropine RSI 0.01mg/kg	0.16mg (1.6ml)	0.17mg (1.7ml)	0.18mg (1.8ml)	0.19mg (1.9ml)	0.2mg (2ml)	0.22mg (2.2ml)	0.24mg (2.4ml)	0.26mg (2.6ml)	0.28mg (2.8ml)	0.3mg (3ml)	0.32mg (3.2ml)	0.34mg (3.4ml)
Benadryl 1mg/kg	16mg (0.3ml)	17mg (0.3ml)	18mg (0.4ml)	19mg (0.4ml)	20mg (0.4ml)	22mg (0.4ml)	24mg (0.5ml)	26mg (0.5ml)	28mg (0.6ml)	30mg (0.6ml)	32mg (0.6ml)	34mg (0.7ml)
Calcium Gluconate 1ml/kg	10 ml	10 ml	10 ml	10 ml	10 ml	10 ml	10 ml	10 ml	10 ml	10 ml	10 ml	10 ml

** **ET dose double IV dose, add 2-3ml NS**

AIR MEDICAL PEDIATRIC DRUG CHART
A-217 07/01/2003

Weight	3 Kg	4 Kg	5 Kg	6 Kg	7 Kg	8 Kg	9 Kg	10 Kg	11 Kg	12 Kg	13 Kg	14 Kg	15 Kg
Charcoal 6.25 gm/oz 1gm/kg	3 gm 0.5 oz	4 gm 0.7 oz	5 gm 0.8 oz	6 gm 1 oz	7 gm 1.2 oz	8 gm 1.3 oz	8 gm 1.4 oz	10 gm 1.6 oz	11 gm 1.7 oz	12 gm 1.9oz	13 gm 2.1 oz	14 gm 2.3 oz	15 gm 2.4 oz
Dextrose 25% 0.5Gm/kg	1.5gm (6ml)	2gm (8ml)	2.5gm (10ml)	3gm (12ml)	3.5gm (14ml)	4gm (16ml)	4.5gm (18ml)	5gm (20ml)	5.5gm (22ml)	6gm (24ml)	6.5gm (26ml)	7gm (28ml)	7.5gm (30ml)
Dopamine in volutrol 100ml run at 5-20 ml/hr=5-20 mcg/kg	18 mg	24mg	30mg	36mg	42mg	48mg	54mg	60mg	66mg	72mg	78mg	84mg	90mg
Epinephrine 1:10,000 IV CPR	0.03mg (0.3ml)	0.04mg (0.4ml)	0.05mg (0.5ml)	0.06mg (0.6ml)	0.07mg (0.7ml)	0.08mg (0.8ml)	0.09mg (0.9ml)	0.1mg (1ml)	0.11mg (1.1ml)	0.12mg (1.2ml)	0.13mg (1.3ml)	0.14mg (1.4ml)	0.15mg (1.5ml)
Epinephrine 1:1000 Nebulized <3 yrs old >3 yrs old	2.5 ml -----	2.5 ml -----	2.5 ml -----	2.5 ml -----	2.5 ml -----	2.5 ml -----	2.5 ml -----	2.5 ml -----	2.5 ml -----	2.5 ml -----	2.5 ml -----	2.5 ml -----	2.5 ml -----
Epinephrine Drip 100 ml volutrol 0.1-0.5mcg/kg/”	1.8mg @ 1-5 ml/hr	2.4mg@ 1-5 l/hr	3mg @ 1-5ml/hr	3.6mg @ 1-5ml/hr	4.2mg @ 1-5ml/hr	4.8mg @ 1-5ml/hr	5.4mg @ 1-5ml/hr	6mg @ 1-5ml/hr	1.3mg @ 5-25ml/hr	1.4mg @ 5-25ml/hr	1.6mg @ 5-25 ml/hr	1.7mg @ 5-25 l/hr	1.8 @ 5-5ml/hr

** **ET dose double IV dose, add 2-3ml NS**

AIR MEDICAL PEDIATRIC DRUG CHART
A-217 07/01/2003

Weight	16 Kg	17 Kg	18 Kg	19 Kg	20 Kg	22 Kg	24 Kg	26 Kg	28 Kg	30 Kg	32 Kg	34 Kg
Charcoal 6.25 gm/oz 1gm/kg	16 gm (2.6 oz)	17 gm (2.7 oz)	18 gm (2. 9oz)	19 gm 3.0 oz)	20 gm (3.2 oz)	22 gm (3.5 oz)	24 gm (3.8 oz)	26 gm (4.2 oz)	28 gm (4.5 oz)	30 gm (4.8oz)	32 gm (5.1 oz)	34 gm (5.4 oz)
Dextrose 25% 0.5gm/kg	8 gm (32ml)	8.5gm (34ml)	9gm (36ml)	9.5gm (38ml)	10gm (40ml)	11gm (44ml)	12gm (48ml)	13gm (52ml)	14gm (56ml)	15gm (60ml)	16gm (64ml)	17gm (68ml)
Dopamine in volutrol, fill to 100cc, run at 5-20ml/hr= 5-20 mcg/kg	96mg	102mg	108mg	114mg	120mg	132mg	144mg	156mg	168mg	180mg	192mg	204mg
Epinephrine 1:10,000 IV 1st dose CPR	0.16mg (1.6ml)	0.17mg (1.7ml)	0.18mg (1.8ml)	0.19mg (1.9ml)	0.2mg (2ml)	0.22mg (2.2ml)	0.24mg (2.4ml)	0.26mg (2.6ml)	0.28mg (2.8ml)	0.3mg (3ml)	0.32mg (3.2ml)	0.34mg (3.4ml)
Epinephrine 1:1000 Nebulized <3 yrs old >3 yrs old	 ----- 5 ml	 ----- 5 ml	 ----- 5 ml	 ----- 5 ml	 ----- 5 ml	 ----- 5 ml	 ----- 5 ml	 ----- 5 ml	 ----- 5 ml	 ----- 5 ml	 ----- 5 ml	 ----- 2.5 ml
Epinephrine Drip 100 ml volutrol 0.1-0.5mcg/kg/min	1.9mg @ 5-25ml/hr	2mg @ 5-25ml/hr	2.2mg @ 5-25ml/hr	2.3mg @ 5-25ml/hr	2.4mg @ 5-25ml/hr	1.3mg @ 10-50ml/hr	1.4mg @ 10-50 l/hr	1.6mg @ 10-50ml/hr	1.7mg @ 10-50ml/hr	1.8mg@ 1050ml/hr	1.9mg @ 10-50 ml/hr	2mg @ 10-50 ml/hr

** **ET dose double IV dose, add 2-3ml NS**

AIR MEDICAL PEDIATRIC DRUG CHART
A-217 07/01/2003

Weight	3 Kg	4 Kg	5 Kg	6 Kg	7 Kg	8 Kg	9 Kg	10 Kg	11 Kg	12 Kg	13 Kg	14 Kg	15 Kg
Epinephrine 1:1000 SC	0.1mg (0.1ml)	0.1mg (0.1ml)	0.1mg (0.1ml)	0.1mg (0.1ml)	0.1mg (0.1ml)	0.1mg (0.1ml)	0.1mg (0.1ml)	0.1mg (0.1ml)	0.11mg (0.1ml)	0.12mg (0.1ml)	0.13mg (0.1ml)	0.14mg (0.1ml)	0.15mg (0.1ml)
Etomidate 2 mg/ml	0.9 mg 0.45ml	12 mg 0.6mls	1.5 mg 0.74mls	1.8 mg 0.9 mls	2.1 m 1.05 mls	2.4 mg 1.2 mls	2.7 mg 1.4mls	3 mg 1.5 mls	3.3mg 1.7mls	3.6 mg 1.8 mls	3.6 mg 2mls	4.2 mg 2.1 mls	4.5 mg 2.25 mls
Glucagon 0.05mg/kg (1mg/ml) IM	0.15mg (0.2ml)	0.2mg (0.2ml)	0.25mg (0.3ml)	0.3mg (0.3ml)	0.35mg (0.4ml)	0.4mg (0.4ml)	0.45mg (0.5ml)	0.5mg (0.5ml)	0.55mg (0.5ml)	0.6mg (0.6ml)	0.65mg (0.6ml)	0.7mg (0.7ml)	0.75mg (0.7ml)
Lasix 1mg/kg max 20mg (10mg/ ml)	3mg (0.3ml)	4mg (0.4ml)	5mg (0.5ml)	6mg (0.6ml)	7mg (0.7ml)	8mg (0.8ml)	9mg (0.9ml)	10mg (1ml)	11mg (1.1ml)	12mg (1.2ml)	13mg (1.3ml)	14mg (1.4ml)	15mg (1.5ml)
Lidocaine ** 1mg/kg (5mg/ml)	3mg (0.15ml)	4mg (0.2ml)	5mg (0.25ml)	6mg (0.3ml)	7mg (0.35ml)	8mg (0.4ml)	9mg (0.45ml)	10mg (0.5ml)	11mg (0.55ml)	12 mg (0.6ml)	13mg (0.65ml)	14mg (0.7ml)	15mg (0.75ml)
Magnesium Sulfate 25-50 mg/kg to max 2 Gm	75-150 mg	100-200 mg	125-250 mg	150-300 mg	175-350 mg	200-400 mg	225-450 mg	250-500 mg	275-550 mg	300-600 mg	325-650 mg	350-700 mg	375-750 mg
Mannitol 0.5Gm/kg (20Gm/100ml)	1.5gm (7.5ml)	2gm (10ml)	2.5gm (12.5ml)	3gm (15ml)	3.5gm (17.5ml)	4gm (20ml)	4.5gm (22.5ml)	5gm (25ml)	5.5gm (27.5ml)	6gm (30ml)	6.5gm (32.5ml)	7gm (35ml)	7.5gm (37.5ml)

** **ET dose double IV dose, add 2-3ml NS**

AIR MEDICAL PEDIATRIC DRUG CHART
A-217 07/01/2003

Weight	16 Kg	17 Kg	18 Kg	19 Kg	20 Kg	22Kg	24 Kg	26 Kg	28 Kg	30 Kg	32 Kg	34 Kg
Epinephrine 1:1000 SC	0.16mg (0.2ml)	0.17mg (0.2ml)	0.18mg (0.2ml)	0.19mg (0.2ml)	0.2mg (0.2ml)	0.22mg (0.2ml)	0.24mg (0.2ml)	0.26mg (0.3ml)	0.28mg (0.3ml)	0.3mg (0.3ml)	0.3mg (0.3ml)	0.3mg (0.3ml)
Etomidate 2 mg/ml	4.8 mg 2.4 mls	5.1 mg 2.6 mls	5.4 mg 2.7 mls	5.7 mg 2.9 mls	6 mg 3 mls	6.6 mg 3.3 mls	7.2 mg 3.6 mls	7.8 mg 3.9 mls	8.4 mg 4.2 mls	9 mg 4.5 mls	9.6 mg 4.8 mls	10.2mg 5.1 mls.
Glucagon 0.05mg/kg (1mg/ml) IM	.8mg (0.8ml)	.85mg (0.9ml)	.9mg (0.9ml)	.95mg (1ml)	1mg (1ml)	1mg (1ml)	1mg (1ml)	1mg (1ml)	1mg (1ml)	1mg (1ml)	1mg (1ml)	1mg (1ml)
Lasix 1mg/kg max 20mg (10 mg/ml)	16 mg	17 mg	18 mg	19 mg	20 mg	20 mg	20 mg	20 mg	20 mg	20 mg	20 mg	20 mg
Lidocaine ** 1mg/kg (5mg/ml)	16mg (0.8ml)	17mg (0.85l)	18mg (0.9ml)	19mg (0.95ml)	20mg (1ml)	22mg (1.1ml)	24mg (1.2ml)	26mg (1.3ml)	28mg (1.4ml)	30mg (1.5ml)	32mg (1.6ml)	34mg (1.7ml)
Magnesium Sulfate 25-50 mg/kg to max 2 Gm	400-800 mg	425-850 mg	450-900 mg	475-950 mg	500-1000 mg	525-1050 mg	550-1100 mg	575-1150 mg	600-1200 mg	625-1250 mg	650-1300 mg	675-1350 mg
Mannitol 0.5gm/kg (20gm/100ml)	8gm (40ml)	8.5gm (42.5ml)	9gm (45ml)	9.5gm (47.5ml)	10gm (50ml)	11gm (55ml)	12gm (60ml)	13gm (65ml)	14gm (70ml)	15gm (75ml)	16gm (80ml)	17gm (85ml)

** **ET dose double IV dose, add 2-3ml NS**

AIR MEDICAL PEDIATRIC DRUG CHART
A-217 07/01/2003

Weight	3 Kg	4 Kg	5 Kg	6 Kg	7 Kg	8 Kg	9 Kg	10 Kg	11 Kg	12 Kg	13 Kg	14 Kg	15 Kg
Morphine 0.1mg/kg (10mg/ml)	-----	------	------	-------	-------	------	------	1mg (0.1ml)	1.1mg (0.1ml)	1.2mg (0.1 ml)	1.3mg (0.1ml)	1.4mg (0.1ml)	1.5mg (0.2)
Morphine IR Oral Dose 0.3 mg/kg	------	------	-------	------	-------	-------	-------	3mg	3.3 mg	3.6 mg	3.9 mg	4.2 mg	4.5 mg
Narcan ** 0.1mg/kg (2mg/ml)	0.3mg (0.1ml)	0.4mg (0.1ml)	0.5mg (0.1ml)	0.6mg (0.1ml)	0.7mg (0.1ml)	0.8mg (0.1ml)	0.9mg (0.1ml)	1mg (0.1ml)	1.1mg (0.1ml)	1.2mg (0.1ml)	1.3mg (0.1ml)	1.4mg (0.1)	1.5mg (0.1)
Phenergan 0.5mg/kg	-------	------	--------	-----	------	------	------	5 mg	5.5 mg	6 mg	6.5 mg	7 mg	7.5 mg
Sodium Bicarbonate 1mEq/kg (1mEq/ml)	3mEq (3ml)	4mEq (4ml)	5mEq (5ml)	6mEq (6ml)	7mEq (7ml)	8mEq (8ml)	9mEq (9ml)	10 mEq (10ml)	11 mEq (11ml)	12 mEq (12ml)	13mEq (13ml)	14mEq (14ml)	15mEq (15ml)
Solumedrol 30mg/kg Spinal cord injury	90mg	120mg	150mg	180mg	210mg	240mg	270mg	300mg	330mg	360mg	390mg	420mg	450mg
1-2mg/kg Bronchospasm/ Anaphylaxis	3-6mg	4-8mg	5-10mg	6-12mg	7-14mg	8-16mg	9-18mg	10-20mg	11-22mg	12-24mg	13-26mg	14-28mg	15-30mg
Succinyl Choline 1.5mg/kg IV (20mg/ml)	4.5mg (0.2ml)	6mg (0.3ml)	7.5mg (0.3ml)	9mg (0.4ml)	10.5mg (0.5ml)	12mg (0.6ml)	13.5mg (0.6ml)	15mg (0.7ml)	16.5mg (0.8ml)	18mg (0.9ml)	19.5mg (0.9ml)	21mg (1.0ml)	22.5mg (1.1ml)
3-4mg/kg IM	9-12mg (0.45-0.6ml)	12-16mg (0.6-0.8ml)	15-20mg (0.7-1ml)	18-24mg (0.9-1.2ml)	21-28mg (1-1.4ml)	24-32mg (1.2-1.6ml)	27-36mg (1.3-1.8ml)	30-40mg (1.5-2ml)	33-44mg (1.6-2.2ml)	36-48mg (1.8-2.4ml)	39-52mg (1.9-2.6ml)	42-56mg (2.1-2.8ml)	45-60ml (2.2-3ml)

** **ET dose double IV dose, add 2-3ml NS**

AIR MEDICAL PEDIATRIC DRUG CHART
A-217 07/01/2003

Weight	3 Kg	4 Kg	5 Kg	6 Kg	7 kg	8 kg	9 Kg	10 Kg	11 Kg	12 Kg	13 Kg	14 Kg	15 kg
Vecuronium 0.1 mg/kg	0.3 mg	0.4 mg	0.5 mg	0.6 mg	0.7 mg	0.8 mg	0.9 mg	1.0 mg	1.1 mg	1.2 mg	1.3 mg	1.4 mg	1.5 mg
Versed 5mg/ml Seizures 0.1mg/kg **IV**	0.3mg (0.1ml)	0.4mg (0.1ml)	0.5mg (.1ml)	0.6mg (0.1ml)	0.7mg (0.1ml)	0.8mg (0.2ml)	0.9mg (0.2ml)	1mg (0.2ml)	1.1mg (0.2ml)	1.2mg (0.2ml)	1.3mg (0.3ml)	1.4mg (0.3ml)	1.5mg (0.3ml)
0.2 mg/kg **IM**	0.6 mg	0.8mg	1.0 mg	1.2 mg	1.4 mg	1.6 mg	1.8 mg	2 mg	2.2 mg	2.4 mg	2.6 mg	2.8 mg	3.0 mg
Sedation	------	------	------	------	------	------	------	------	------	------	------	------	------
Sedation/Amnesia Post RSI 0.1 mg/kg	0.6mg (0.1ml)	0.8mg (0.2ml)	1mg (0.2ml)	1.2mg (0.2ml)	1.4mg (0.3ml)	1.6mg (0.3ml)	1.8mg (0.4ml)	2mg (0.4ml)	2.2mg (0.4ml)	2.4mg (0.5ml)	2.6mg (0.5ml	2.8mg (0.6ml)	3mg (0.6ml)

** **ET dose double IV dose, add 2-3ml NS**

AIR MEDICAL PEDIATRIC DRUG CHART
A-217 07/01/2003

Weight	16 Kg	17 Kg	18 kg	19 Kg	20 Kg	22 Kg	24 kg	26 kg	28 kg	30 kg	32 Kg	34 Kg
Morphine 0.1mg/kg (10mg/ml)	1.6mg (0.2ml)	1.7mg (0.2ml)	1.8mg (0.2ml)	1.9mg (0.2ml)	2mg (0.2ml)	2.2mg (0.2ml)	2.4mg (0.2ml)	2.6mg (0.3ml)	2.8mg (0.3ml)	3mg (0.3ml)	3.2mg (0.3ml)	3.4mg (0.3ml)
Morphine IR Oral 0.3mg/kg	4.8 mg	5 mg	5 mg	5 mg	5 mg	5 mg	5 mg	5 mg	5 mg	5 mg	5 mg	5 mg
Narcan ** 0.1mg/kg (2mg/ml)	1.6mg (0.8ml)	1.7mg (0.8ml)	1.8mg (0.9ml)	1.9mg (0.9ml)	2mg (1ml)	2.2mg (1.1ml)	2.4mg (1.2ml)	2.6mg (1.3ml)	2.8mg (1.4ml)	3mg (1.5ml)	3.2mg (1.6ml)	3.4mg (1.7ml)
Phenergan 0.5mg/kg	8 mg	8.5 mg	9 mg	9.5 mg	10 mg	11 mg	12 mg	13 mg	14 mg	15 mg	16 mg	17 mg
Sodium Bicarbonate 1mEq/kg (1mEq/ml)	16mEq (16ml)	17mEq (17ml)	18mEq (18ml)	19mEq (19ml)	20mEq (20ml)	22mEq (22ml)	24mEq (24ml)	26mEq (26ml)	28mEq (28ml)	30mEq (30ml)	32mEq (32ml)	34mEq (34ml)
Solumedrol 30mg/kg Spinal cord injury 1-2mg/kg Bronchospasm/ Anaphylaxis	480mg 16-32mg	510mg 17-34mg	540mg 18-36mg	570mg 19-38mg	600mg 20-40mg	660mg 22-44mg	720mg 24-48mg	780mg 26-52mg	840mg 28-56mg	900mg 30-60mg	960mg 32-64mg	1020mg 34-68mg
Succinyl Choline 1.5mg/kg IV (20mg/ml) 3-4mg/kg IM	24mg (1.2ml) 48-64mg (2.4-3.2ml)	25.2mg (1.3ml) 51-68mg (2.5-3.4ml)	27mg (1.3ml) 54-72mg (2.7-3.6ml)	28.5mg (1.4ml) 57-76mg (2.8-3.8ml)	30mg (1.5ml) 60-80mg (3-4ml)	33mg (1.6ml) 66-88mg (3.3-4.4ml)	36mg (1.8ml) 72-96mg (3.6-4.8ml)	39mg (1.9ml) 78-104mg (3.9-5.2ml)	42mg (2.1ml) 84-112mg (4.2-5.6ml)	45mg (2.2ml) 90-120mg (4.5-6ml)	48mg (2.4ml) 96-128mg (4.8-6.4ml)	51mg (2.5ml) 102-136mg (5.1-6.8ml)

** **ET dose double IV dose, add 2-3ml NS**

AIR MEDICAL PEDIATRIC DRUG CHART
A-217 07/01/2003

Weight	16 Kg	17 Kg	18 kg	19 Kg	20 Kg	22 Kg	24 kg	26 kg	28 kg	30 kg	32 Kg	34 Kg
Vecuronium 0.1 mg/kg	1.6 mg	1.7 mg	1.8 mg	1.9 mg	2.0 mg	2.2 mg	2.4 mg	2.6 mg	2.8 mg	3.0 mg	3.2mg	3.4 mg
Versed 5mg/ml Seizures: 0.1mg/kg **IV**	1.6mg (0.3ml)	1.7mg (0.3ml)	1.8mg (0.4ml)	1.9mg (0.4ml)	2mg (0.4ml)	2.2mg (0.4ml)	2.4mg (0.5ml)	2.6mg (0.5ml)	2.8mg (0.6ml)	3mg (0.6ml)	3.2mg (0.6ml)	3.4mg (0.7ml)
0.2 mg/kg **IM**	3.2 mg	3.4 mg	3.6 mg	3.8 mg	4 mg	4.4 mg	4.8 mg	5.2 mg	5.4 mg	6 mg	6.4 mg	6.8 mg
Sedation	------	------	------	------	2.0 mg	2.2 mg	2.4 mg	2.6mg	2.8 mg	3.0 mg	3.2mg	3.4mg
Sedation/Amnesia Post RSI 0.1 mg/kg	1.6 mg	1.7 mg	1.8 mg	1.9 mg	2.0 mg	2.2 mg	2.4 mg	2.6 mg	2.8 mg	3.0 mg	3.2 mg	3.4 mg

** **ET dose double IV dose, add 2-3ml NS**

SUBJECT: AIR MEDICAL TREATMENT PROTOCOL -- ABDOMINAL PAIN (Non-Traumatic) **Date: 07/01/2003**

BLS	ALS
Ensure patent airway O_2 and/or ventilate prn NPO Anticipate vomiting	IV TKO, adjust prn to maintain systolic BP >90, sustain mentation and pink, dry skin Monitor EKG. Nausea/vomiting, **consider**: Phenergan 12.5-25 mg IV/IM, MR X1

Approved:

EMS Medical Director

SUBJECT: AIR MEDICAL TREATMENT PROTOCOL -- AIRWAY OBSTRUCTION (FOREIGN BODY) **Date: 07/01/2003**

BLS	ALS
For a conscious patient: • Reassure,encourage coughing. • O2 prn • Abdominal thrusts (chest thrusts in obesity/pregnancy) **If patient becomes unconscious:** • Abdominal thrusts prn **If patient is unconscious when found:** • Attempt to ventilate. (Reposition prn) • Abdominal thrusts prn **Once obstruction is removed** • High flow O2, ventilate prn	**If patient becomes unconscious or has a decreasing LOC:** • Direct laryngoscopy and Magill forceps *If unsuccessful in removing a complete airway obstruction:* Needle Cricothyrotomy/Surgical Cricothyrotomy/Comitube **Once obstruction is removed:** • Monitor O2 saturation • Monitor EKG • Intubate prn • IV TKO

NOTE: *Stat transport while continuing abdominal thrusts.*

Approved:

EMS Medical Director

BLS	ALS
Ensure patent airway 0_2 and/or ventilate prn. Remove sting/injection mechanism May assist patient to self-administer own prescribed medication **ONE TIME ONLY.** Base Hospital contact required prior to any repeat dose. **Latex Sensitive Patients** Should be managed in a latex safe environment without compromising patient care. Prehospital personnel should inform the receiving facility personnel at the time of transfer if they become aware that the patient is latex sensitive. Pediatric patients with a long or complex medical history (such as spina bifida, cerebral palsy, or neurologic disorders) frequently exhibit latex sensitivity. Questions regarding the management of latex sensitive patients should be referred to the Base Hospital. See Management of Latex Sensitive Patients (Equipment List) S-105)	Monitor O2 Saturation prn Monitor EKG Intubate/Cricothyrotomy for laryngeal edema **Allergic Reaction (may include mild hypotension)**: Benadryl 50mg slow IVP/IM IV TKO; adjust prn *In the presence of respiratory distress with bronchospasm:* Albuterol 6ml (0.083%) via O_2 powered nebulizer MR Atrovent 2.5ml (0.02%) added to first dose of Albuterol via continuous O_2 powered nebulizer. *If severe respiratory distress with bronchospasm or inadequate response to Albuterol/Atrovent consider:* Epinephrine 1:1000 0.3mg SC, MR q10" x2 (max 3 doses) **Exposure to Allergen with Previous Severe Reaction and with onset of any allergic symptoms (e.g. urticaria, swelling etc)** Epinephrine 1:1,000, 0.01mg/kg SC Benadryl 50mg slow IVP/IM **Consider:** Solumedrol 125mg IV (IM if no IV) ***If respiratory distress with bronchospasm treat with Albuterol/Atrovent as above:*** **Consider:** Terbutaline 0.25mg SC, MR in 15-30" **OR** 2.5mg in 3ml NS via O_2 powered nebulizer **Anaphylaxis (shock or cyanosis)** Epinephrine 1:1000 0.3 mg SC, MR q10" X2 (max 3 doses) IV wide open . Epinephrine 0.1-0.3mg 1:10,000 IVP, MR (max 0.3 mg q10")**OR** Epinephrine 2mg 1:1,000 ET, MR Benadryl 50mg slow IVP/IM Solumedrol 125mg IVP Dopamine 400mg/250ml @ 5-40 mcg/kg/min. Titrate BP to 100-120mmHg systolic ***If respiratory distress with bronchospasm treat with Albuterol/Atrovent as above:*** **Consider:** Terbutaline 0.25mg SC, MR in 15-30" **OR** 2.5mg in 3ml NS via O_2 powered nebulizer

Approved:

EMS Medical Director

BLS	ALS
Ensure patent airway, 0_2 and/or ventilate prn. Spinal immobilization when indicated. Secretion problems, position on affected side. Do not allow patient to walk. Restrain prn. Hypoglycemia: (suspected): If patient is awake and has gag reflex, give 2 packets of granulated sugar with fruit juice or other liquid. If patient is unconscious, NPO Seizures: Protect airway, and protect from injury Treat associated injuries. Spinal immobilization prn.	Identify and treat cause. Intubate prn, consider RSI. Monitor EKG, Pulse Oximetry IV TKO, adjust prn Venous/capillary sampling **Symptomatic suspected Opioid OD** *Excluding opioid dependant pain management patient:* • Narcan 2 mg **IVP/DIVP/IM** *For patient refusing transport* • Give additional 2 mg **IM** *For opioid- dependant pain management patient:* • Narcan titrate 0.1mg up to 2 mg IVP/direct IVP or IM MR Hypoglycemia: Altered LOC D_{50} 25Gm if BS ≤75mg/dl or BS unobtainable, MR D_{50} 25Gm if BS >75mg/dl if sample result? Glucagon 1 ml IM (if no IV) in patient with altered LOC & BS ≤75mg/dl or unobtainable Seizures: a. Generalized seizures lasting >5". b. Focal seizures with respiratory compromise c. Recurrent seizures without lucid interval d. Prolonged focal seizure. Give: Versed 0.1mg IVP (max dose 5 mg), MR in 10" **OR** Versed 0.2mg/kg (max dose 10mg) IM, MR in 10" **OR** Ativan 1-2 mg IVP/IM MR up to 4 mg

Approved:

EMS Medical Director

Behavioral Emergencies: Restrain only if necessary to prevent injury. If LOC is diminished, use prone or lateral position. Avoid unnecessary sirens. Consider law enforcement support. For patients under 72 hour hold, encourage their participation in the transport without restraints. Consider ground transport if combative, a danger to the crew and unsafe for flight. (See Policy S-422)	Behavioral Emergencies: Consider: Ativan 1-2 mg IV/IM MR q 5 " to max of 4 mg **OR** Versed 2-5mg slow IVP to max of 5 mg Hypertensive Urgency: BP systolic >220 or diastolic >120 in the presence of end-organ system dysfunction. Consider: Labetolol 10-20mg slow IVP, MR 20-80mg q10" to max of 300mg **OR** Labetolol 2mg/min IV drip, titrate to BP. CVA If GCS $\leq$ 8 consider RSI

Note: For Pregnancy Induced Hypertension - see A-233

Approved:

EMS Medical Director

BLS	ALS
Move to a safe environment. Break contact with causative agent. Ensure patent airway, O_2 and/or ventilate prn. Treat other life threatening injuries. THERMAL BURNS: Burns of < 10% body surface area, cool with non-chilled water or saline. For burns of > 10% body surface area, cover with dry dressings and keep warm. Do not allow the patient to become hypothermic. CHEMICAL BURNS: Flush with copious water. Brush off dry chemicals. TAR BURNS: Cool with water, transport; do not remove tar.	Monitor O2 Saturation Intubate prn Monitor EKG prn IV TKO prn, adjust prn For patients meeting Burn Center criteria: ≥ 15 yo IVNS 500 ml/hr MS 2mg - 20mg IVP/IM If unable to give IV/IM may use MS PO per Pain Management Protocol. *In the presence of respiratory distress with bronchospasm:* Albuterol 6 ml 0.083% via Nebulizer, MR Atrovent 2.5 ml 0.02% added to first dose of Albuterol via Nebulizer.

Note: Base Hospital Contact and Transport (per S-415):
Will be made to UCSD Base Hospital for patients meeting burn center criteria.

BURN CENTER CRITERIA
Patients with burns involving:

- 20% second degree or ≥5% 3rd degree of BSA
- suspected respiratory involvement or significant smoke inhalation in a confined space
- significant injury of the face, hands, feet or perineum or circumferential
- significant electrical injury due to high voltage (greater than household current/ 110 volts)

Disposition:
Hyperbaric chamber for suspected CO poisoning.

Approved:

EMS Medical Director

BLS	ALS
Ensure patent airway. Ventilate. Remove any dermal NTG. CPR	Monitor EKG/ Pulse oximetry. Where no monitor available: Precordial thump for witnessed arrest. Defibrillate. Intubate. IV TKO . Epinephrine 1:10,000, 1mg IVP, MR q3-5". **OR** Epinephrine 1:1000, 2mg ET, MR q3-5". **OR** Epinephrine 1:1000, 10 mg (diluted to 20 mls) ETAD –esophageal placement via port 1 (blue) MR q 3-5 min. Defibrillate. **Consider:** $NaHCO_3$ 1mEq/kg IVP, MR at 0.5mEq/kg IVP q10". Defibrillate. **Consider:** NG. ?Hypovolemia: 2 IV's wide open STAT transport.

Approved:

EMS Medical Director

BLS	ALS
Ensure patent airway O2 and/or ventilate prn. Do not allow patient to walk May assist patient to self-medicate Nitroglycerine SL if systolic BP>110 mm Hg	Monitor EKG/Pulse Oximetry IV TKO **OR** 2 large bore IV's TKO, adjust rate prn if ?aortic aneurysm Treat dysrhythmias NTG 0.4 mg SL if BP≥100 mm Hg MR q 5 minutes ASA 324mg chewable po **Consider** NTG 50mg/250 NS IV drip at 10-20 mcg/min titrate to pain relief MS 2 mg IVP to max 20 mg if NTG ineffective or contraindicated <u>Discomfort /pain of ?cardiac origin with associated hypotension:</u> IV TKO Fluid challenge to max 200 ml with clear lungs, MR prn **<u>Consider:</u>** Dopamine 400 mg/250 ml NS, 5-40 mcg/kg/min, titrate BP to 100-120 mm Hg systolic. <u>Discomfort/pain of ?cardiac origin with associated hypertension:</u> BP >200 mm Hg, diastolic >120mm HG **<u>Consider:</u>** Labetolol IV 10-20 mg slow IVP, MR at 20-80 mg q10"to max 300 mg

Approved:

EMS Medical Director

Treat dysrhythmias ONLY if they have potential to or are causing symptoms of decreased cardiac output.

BLS	**ALS**
O_2 and/or ventilate prn.	Monitor EKG/ Monitor O2 Saturation IV TKO, adjust prn Intubate prn A. Unstable Bradycardia with Pulse: (Chest pain, dyspnea, BP <90 mm Hg or altered LOC). If bradycardia is severe and patient is unconscious, begin chest compressions. Atropine Sulfate 0.5-1mg IVP for pulse ≤40bpm MR to max of 3mg **OR** Atropine Sulfate 1-2mg ET for pulse ≤40bpm, MR to max of 3mg absorbed dose **If ineffective, consider:** External Pacing Dopamine 400mg in 250ml at 5-40mcg/kg/min IV, titrate to BP=100-120 mmHg Systolic (after max Atropine) Epinephrine 1:1000, 1mg in 250ml NS at 2-10 mcg/min IV drip titrate to pulse and BP . B. Supraventricular Tachycardia (SVT): **Stable**: VSM/CSM if stable MR Adenosine 6mg rapid IVP, followed with 20ml NS IVP, **if ineffective** Adenosine 12mg rapid IVP followed with 20ml NS IVP, MR x1 in 1-2" Labetolol 20 mg followed by 40 mg if needed, followed by 80 mg if needed at q 10" intervals until rate controlled. Hold for systolic <100 mmHg. **Unstable**:(chest pain, dyspnea, BP ≤90mmHg or altered LOC): VSM/CSM MR Adenosine 6mg rapid IVP, followed with 20ml NS IVP **if ineffective** Adenosine 12mg rapid IVP, followed with 20ml NS IVP, MR x1 ***If rhythm refractory to treatment or symptoms are severe:*** Versed 2.5 mg MR X2 slow IVP prn cardioversion Synchronized cardioversion at 100 j, increase prn to max of 360 j **Unconscious:** Synchronized cardioversion at 100 j MR at 200, 300, 360 j

Approved:

EMS Medical Director

Treat dysrhythmias ONLY if they have potential to or are causing symptoms of decreased cardiac output.

BLS	**ALS**
O_2 and/or ventilate prn.	C. Uncontrolled Atrial Fibrillation/Atrial Flutter In the presence of symptomatic uncontrolled ventricular response with rate ≥ 180 Labetolol 20 mg followed by 40 mg if needed, followed by 80 mg if needed at q 10" intervals until rate controlled. Hold for systolic <100 mmHg. In the presence of uncontrolled ventricular response with rate ≥ 180, hypotension and decreasing LOC: Versed 2.5 mg slow IVP MR X 2 prn precardioversion Cardioversion at 100, 200, 300, 360 j

Approved:

EMS Medical Director

Treat dysrhythmias ONLY if they have potential to or are causing symptoms of decreased cardiac output.

BLS	**ALS**
1. Stable: conscious, pulse O_2 and/or ventilate prn. 2. Unstable: ?conscious Assist ventilation	Monitor EKG/ Pulse Oximeter Intubate prn IV TKO, adjust prn D. Ventricular Tachycardia (VT): 1. Stable VT: Lidocaine 1.5 mg/kg slow IVP, MR at 0.5mg/kg slow IVP q8-10" (not to exceed total of 3mg/kg absorbed dose including initial bolus) **OR:** Amiodarone 150 mg over 10" MR X 1 in 10 minutes. 2. Unstable VT: (chest pain, dyspnea, BP≤90mmHg or altered LOC): Precordial thump for witnessed onset **Conscious**: Versed 2.5 mg IVP/IM MR X2. Synchronized cardioversion at 100j, MR @ 200j, 360j prn. **Unconscious**: Synchronized cardioversion at 100j MR @ 200j, 360j prn. If ineffective Lidocaine 1.5 mg/kg slow IVP, MR at 0.5mg/kg slow IVP q8-10" (not to exceed total of 3mg/kg absorbed dose including initial bolus) **OR:** Amiodarone 300 mg IVP, followed prn by 150 mg IVP over 10 minutes. **THEN, for Post Conversion** (if not already given): If Amiodarone is the converting agent: Amiodarone 1 mg/min IV drip For all other patients: Lidocaine 1.5mg/kg IVP, MR at 0.5mg/kg slow IVP q8-10", not to exceed a total of 3mg/kg absorbed dose (including initial bolus) **OR** Lidocaine 1-4 mg/min IV drip **OR** Lidocaine 3mg/kg ET, MR at 1mg/kg q8-10" not to exceed 3mg/kg absorbed dose (including initial bolus)

Approved:

EMS Medical Director

Treat dysrhythmias ONLY if they have potential to or are causing symptoms of decreased cardiac output.

BLS	**ALS**
?conscious / pulseless): CPR Assist ventilation	**E.** VF/Pulseless VT: Precordial thump for witnessed initial onset. Defibrillate prn Intubate and ventilate IV TKO Epinephrine 1:10,000, 1mg IVP, MR q3- 5" **OR** Epinephrine 1:1000, 2mg ET, MR q3-5" Amiodarone 300 mg IVP, followed prn by 150 mg IVP over 10 minutes. Lidocaine 1.5mg/kg slow IVP, MR x1 in 3-5" **OR** Lidocaine 3mg/kg ET, MR x1 in 3-5" Magnesium Sulfate 1-2 Gm IV (Torsades de Pointes, hypomagnesemic state or recurrent VF) **Consider:** $NaHCO_3$ 1mEq/kg IVP, MR at 0.5mEq/kg IVP q10" if possible hyperkalemia, prolonged arrest, tricyclic OD or suspected acidosis **F.** Post Conversion VT/VF, AICD conversion with pulse >50bpm: If Amiodarone is the converting agent: Amiodarone 1 mg/min IV drip For all other patients: Lidocaine 1.5mg/kg IVP, MR at 0.5mg/kg slow IVP q8-10", not to exceed a total of 3mg/kg absorbed dose (including initial bolus) **OR** Lidocaine 1-4 mg/min IV drip **OR** Lidocaine 3mg/kg ET, MR at 1mg/kg q8-10" not to exceed 3mg/kg absorbed dose (including initial bolus)

Approved:

EMS Medical Director

Treat dysrhythmias ONLY if they have potential to or are causing symptoms of decreased cardiac output.

BLS	**ALS**
O_2 and/or ventilate prn. CPR	Monitor EKG. Intubate prn. IV TKO, adjust prn. Attempt to determine cause and treat. **G.** Pulseless Electrical Activity (PEA) Epinephrine 1:10,000, 1mg IVP, MR q3-5". **OR** Epinephrine 1:1000, 2mg ET, MR q3-5". For HR≤60/min: Atropine Sulfate 1mg IVP, MR x2 to a max. of 3mg absorbed dose. **OR** Atropine Sulfate 2mg ET, MR x2 to a max of 3mg absorbed dose. **Consider:** If ? Hyperkalemia: $NaHCO_3$ 1mEq/kg IVP, then 0.5 mEq/kg IVP q10". Calcium Gluconate 10 mls IVP If ? Hypovolemia, Fluid challenge If ? Tension Pneumothorax, consider needle thoracotomy/chest tube insertion. If ? Pericardial Tamponade, consider pericardiocentesis and fluid challenge **H.** Asystole: Intubate and ventilate Epinephrine 1:10,000, 1mg IVP, MR in 3-5". **OR** Epinephrine 1:1000, 2mg ET, MR in 3-5". Atropine Sulfate 1mg IVP, MR q3-5"x2 to max 3 mg **OR** Atropine Sulfate 2mg ET, MR q3-5"x2 to max 3mg absorbed dose **Consider:** $NaHCO_3$ 1mEq/kg IVP, then 0.5mEq/kg IVP q10" Discontinue resuscitative efforts if no response noted per policy A-406

Approved:

EMS Medical Director

BLS	ALS
O_2 and/or ventilate prn. JELLYFISH STING: Rinse with alcohol; do not rub or apply pressure. STINGRAY OR SCULPIN INJURY: Heat as tolerated. SNAKEBITES: Mark proximal extent of swelling. Keep involved extremity at heart level and immobile.	Monitor EKG/Pulse Oximeter prn Intubate prn IV TKO prn, adjusted prn MS 2mg–20 mg IVP/IM prn pain If unable to start IV or give IM treat with PO MS per Pain Management Protocol. **Snakebites**: 200ml NS IV bolus & repeat q30" MS 2mg - 20mg IVP/IM prn pain If unable to start IV or give IM treat with PO MS per Pain Management Protocol. **Symptomatic Black Widow Spider Bites:** Ativan 1-2 mg IV MR up to 4mg Calcium Gluconate 10 ml IV

Approved:

EMS Medical Director

BLS	ALS
Ensure patient airway. 0_2 and/or ventilate prn. Remove excess/wet clothing. Heat Exhaustion: Cool gradually: A. Fanning, sponging with tepid water. B. Avoid shivering. C. If conscious, give small amounts of fluids. Heat Stroke: Rapid cooling: A. Ice packs to carotids, femorals and axillae. B. Sponge with tepid water. C. Fan, avoid shivering. Cold Exposure: Gentle warming: A. Blankets, warm packs -not to exceed 110 F. B. Dry dressings. C. Avoid unnecessary movement or rubbing. D. If alert, give warm liquids. E. If severe, NPO. F. Prolonged CPR may be indicated.	Monitor EKG/Pulse Oximeter. Intubate prn. IV TKO, adjust prn. Severe hypothermia with cardiac arrest: Hold medications Continue CPR If defibrillation needed, limit to 3 shocks maximum

Note: Consider fluid resuscitation in young healthy adults in high heat/high exertion situations even if BP is within normal limits.

Approved:

EMS Medical Director

BLS	ALS
Ensure patent airway, give O_2, ventilate if necessary.	Monitor EKG/Pulse Oximeter Intubate prn IV TKO in arm that does not have graft/AV fistula if possible, adjust rate prn Suspected Hyperkalemia (widened QRS complex and peaked T-waves): $NaHCO_3$ up to 1mEq/kg IVP x1 Calcium Gluconate 10 ml IVP

NOTE: Access percutaneous venous access catheter (Vascath) or dialysis graft for definitive therapy only. Consider patient's hospital of choice for transport.

Approved:

EMS Medical Director

BLS ALS

BLS	ALS
100% O_2, and/or ventilate prn. Spinal immobilization when indicated. Remove wet clothing	Monitor EKG Monitor O2 saturation Intubate with inline spinal stabilization as indicated, IV TKO, adjust prn $NaHCO_3$ up to 1mEq/kg IVP x1

Diving Victims: Any victim who has been breathing from compressed air sources below the water's surface and presents with the following:
Minor presentation: minimal localized joint pain, mottling of the skin surface, localized swelling with pain; none of which are progressive.
Major presentation: symptoms listed above that are severe and/or rapidly progressing, vertigo, altered LOC, progressive paresthesia, paralysis, severe SOB, blurred vision, crepitus, hematemesis, hemoptysis, pneumothorax, trunk pain, or girdle or band-like burning discomfort.

Disposition of Diving Victims:
Major presentation:
All patients with a "major" presentation should be transported to UCSD-Hillcrest
Trauma issues are secondary in the presence of a "Major" presentation
If the airway is unmanageable, divert to the closest BEF.

Minor presentation:
Major trauma candidate: catchment trauma center
Non-military patients: routine
Active duty military personnel: transport to the Military Duty Recompression Chamber if possible. The Base Hospital will contact the Duty Recompression Chamber at (619) 556-7130 to determine chamber location. Paramedics/Base hospitals shall transfer care to the Diving medical Officer (or designee) upon arrival to the chamber. Hyperbaric treatment may begin in accordance with military medical protocols.
Naval Hyperbaric Chamber Locations
North Island Naval Air Station
Naval Station 32nd Street and Harbor Drive
Naval Special Warfare – Coronado

Note: If possible, obtain dive computer or records
Hyperbaric Chambers must be capable of recompression to 165 ft.

Approved:

EMS Medical Director

BLS	ALS
MOTHER: Ensure patent airway. O_2, ventilate prn If no time for transport and delivery is imminent (crowning and pushing), proceed with delivery. If no delivery, transport on left side. Routine Delivery: Massage fundus if placenta delivered. (Do not wait on scene). Place ID bands on Mother and Infant Post Partum Hemorrhage: Massage fundus. Baby to breast. Trendelenburg position. Eclampsia (Seizures): Protect airway, and protect from injury. Spinal immobilization when indicated. STAT transport for third trimester bleeding.	MOTHER: IV TKO, adjust prn. Fetal Monitoring Post Partum Hemorrhage: Pitocin 20 units/1000cc IV adjust rate prn, titrate to bleeding. Pregnancy Induced Hypertension (BP syst >160, diast >100 with HA or visual changes) Monitor EKG/Pulse Oximeter Consider bilat IVs, TKO Magnesium Sulfate 4GM IV drip over 20" then 1 GM over next hour IV drip Apresoline 5 mg IV give over 2-5 minutes MR in 20 minutes. (Max 15 mg.) ***Titrate to maintain BP between 90-100 diastolic*** Eclampsia (Seizures): Monitor EKG/Pulse Oximeter Intubate prn Consider second IV line, TKO Seizure precautions Place in L lateral position Magnesium Sulfate 4GM IV drip over 20" then 1 GM over next hour IV drip per Apresoline 5mg IV over 5 min, MR q20" to max of 15mg If seizures continue: Versed 0.1mg/kg IV(max dose 5 mg), MR in 10" **OR** Versed 0.2mg/kg IM(max dose 10mg), MR in 10" **OR** Ativan 1-2 mg IV/IM q 5"MR to max of 4 mg Premature Labor Magnesium Sulfate 4GM IV over 20 min THEN 1-2 gm/HR IV drip Terbutaline 0.25mg SC, MR q 15-30" prn up to 0.50mg.

Approved:

EMS Medical Director

BLS	ALS
Ensure patent airway. O_2 and/or ventilate prn Consider transport LEFT side for ingestions. Skin: remove clothes and brush off, or rinse substance with copious amount of water. Inhalation/Smoke/Gas/Toxic Substance: move patient to safe environment. 100% O2 via mask. Consider transport to a facility with Hyperbaric chamber. ?Tricyclic OD: Hyperventilate Contamination with commercial grade ("low level") radioactive material: Patients with mild injuries may be decontaminated (removal of contaminated clothing, brushing off material) prior to treatment and transport. Decontamination proceedings SHALL NOT delay treatment and transport of patients with significant or life-threatening injuries. Treatment of significant injuries is *always* the priority. Protect from injury.	Monitor EKG Monitor O2 Saturation Intubate prn IV TKO, adjust prn Ingestions: Charcoal 50GM PO (excluding isolated iron ingestion). Assure pt has a gag reflex and is cooperative. Symptomatic ?OpioidOD (*excludingOpioid dependent pain management patients):* Narcan 2 mg IVP/direct IVP: MR If patient refuses transport, give additional Narcan 2 mg IM. Symptomatic ? Opioid OD in Opioid dependent pain management patients: Narcan titrate 0.1 mg up to 2 mg IVP/direct IVP or IM per MR Organophosphate poisoning: Atropine 2mg IVP/IM. MR q1" prn titrate to symptoms **OR** Atropine 4mg ET, MR q1" prn Extrapyramidal reactions: Benadryl 50mg slow IVP/deep IM ?Tricyclic OD with cardiac effects (i.e. widened QRS): $NaHCO_3$ up to 1mEq/kg IVP, MR x2 until QRS shortens.

Note: Charcoal ineffective with alcohol, heavy metals, lithium, and iron ingestions.

Approved:

EMS Medical Director

BLS

Previously established electrolyte and/or glucose peripheral IV lines:

Maintain at preset rates.
Turn off when indicated.

Previously applied dermal medication delivery systems:

Remove dermal NTG when indicated (CPR, shock)

Previously established medication delivery systems and/or other preexisting treatment modalities with preset rates (non interfacility transport):

Proceed with transport when person responsible for operating the device (the individual or another person) is able to continue to provide this function during transport.

If the person responsible for operating the device is unable to continue to provide this function during transport, contact the BH for direction.

BH may ONLY direct BLS personnel to
1. Leave device as found OR turn the device off;
THEN,
2. Transport patient OR wait for ALS arrival.

Interfacility Transports:

No wait period is necessary for routine oral/dermal medications or completed aerosol treatments.

Check for prior IV, IM, SQ, and non-routine PO medication delivery to assure minimum wait period of 30".

If there is a central line, the tip of which lies in the central circulation, the catheter MUST be capped with a device which occludes the end.

IV solutions with added medications OR other ALS treatment/monitoring modalities require ALS personnel(or RN/MD) in attendance during transport.

ALS

Previously established electrolyte and/or glucose containing IV solutions:

Adjust rate or D/C prn

Previously applied topical medication delivery systems:

Remove dermal NTG or other dermal medications prn

Pre-existing internal/external vascular access:

Use at all times as primary access for definitive therapy ONLY.

Previously established medication delivery systems and/or other preexisting treatment modalities with preset rates:

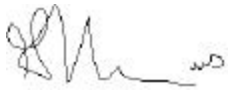
Adjust or D/C prn
If no medication label or identification of infusing substances may D/C.

Approved:

EMS Medical Director

BLS	ALS
Ensure patent airway Reassurance. O_2 and/or ventilate prn. Hyperventilation: Coaching/reassurance. Remove patient from causative environment. Consider ?organic problem. Toxic Inhalants (CO exposure, smoke, gas,etc): Consider transport to facility with hyperbaric chamber. Known asthmatics: Consider oral hydration Respiratory Distress with croup-like cough: Aerosolized Saline or Water via oxygen powered nebulizer/mask.	Monitor EKG Monitor O2 Saturation. Intubate prn, Consider RSI IV TKO, adjust rate prn Respiratory distress with rales (?cardiac origin): NTG 0.4mg SL if BP ≥100mmHg, MR x2 q5" Lasix 20-100mg IVP, MR to max of 100mg NTG ointment ½-1" MS 2mg IVP if NTG ineffective or contraindicated. MR to 20 mg Respiratory Distress with Bronchospasm (?respiratory etiology): Albuterol 6ml (0.083%) via 0_2 powered nebulizer, MR Atrovent 2.5 ml 0.02 % added to first dose of Albuterol via Nebulizer . **OR** Terbutaline 0.25mg SC, MR in 15-30" If no known cardiac history and age<55 yo: Epinephrine 0.3mg 1:1,000 SC, MR in 10". **Consider:** Solumedrol 125mg IVP Respiratory Distress due to ? Pneumothorax Needle thoracostomy or Chest Tube Insertion

Approved:



EMS Medical Director

BLS/ALS

Ensure patent airway.

0_2 and/or ventilate prn.

Do not allow patient to bathe or change clothes.

Consult with Law Enforcement on scene for evidence collection.

If the patient requires a medical evaluation, transport to the closest, most appropriate facility. Law Enforcement will authorize and arrange an evidentiary exam after the patient is stabilized. If only evidentiary exam is needed, may release to law enforcement for transport to a SART facility

Approved:

EMS Medical Director

BLS	ALS
Shock: O_2 and/or ventilate prn. Control obvious external bleeding. Treat associated injuries. NPO, anticipate vomiting. Trendelenburg Remove transdermal NTG	Monitor EKG Monitor O2 Saturation Intubate prn Shock (noncardiac): 2 IV's wide open Shock: Normovolemia (anaphylactic shock, neurogenic shock, septic shock): IV titrate to BP Dopamine 400mg/250ml, 5-40 mcg/kg/min, titrate to BP=100-120 mmHg systolic Shock (?cardiac etiology): IV TKO **Consider:** fluid challenge to max. 500ml with clear lungs Dopamine 400mg/250ml, 5-40 mcg/kg/min, titrate BP=100-120 mmHg systolic Spinal Cord Injury: **Consider:** Solumedrol 30 mg/kg IV slowly with GCS >12 (contraindicated in Head injury)

Treat cause of Shock:

Tension Pneumothorax - Needle Thoracostomy or Chest Tube Insertion

Cardiac Tamponade - Pericardiocentesis

Dysrhythmias - per Protocol

Approved:

EMS Medical Director

BLS	ALS
Ensure patent airway, protecting C-spine. Spinal immobilization prn. O_2 and/or ventilate prn. Control obvious bleeding. Abdominal Trauma: Cover eviscerated bowel with saline pads. Chest Trauma: Cover open chest wound with three-sided occlusive dressing; release dressing if ?tension pneumothorax develops. Extremity Trauma: Splint neurologically stable fractures as they lie. Use traction splint as indicated. Grossly angulated long bone fractures with neurovascular compromise may be reduced with gentle unidirectional traction for splinting per BHO. Impaled Objects: Immobilize & leave impaled objects in place. Remove per *BHPO* **Exception**: may remove impaled object in face/cheek, or from neck if there is total airway obstruction Pregnancy of >6mo: Where spinal immobilization precaution is indicated, tilt on spine board 30 degrees, left lateral decubitus.	IV TKO adjust prn Bilateral IV's wide open for hypovolemic shock Monitor EKG Monitor O2 Saturation Intubate prn, consider RSI prn Crush Injury: IV, adjust rate prn (Rate 1.5L/hr when extremity released) $NaHCO_3$ 1mEq/kg IVP Extremity Trauma: MS 2mg IVP to 20mg for isolated injuries If unable to start IV can us MS PO or IM per pain management protocol. Grossly angulated long bone fractures may be reduced with gentle unidirectional traction for splinting Impaled Objects: Immobilize & leave impaled objects in place. **Exception**: may remove impaled object in face/cheek or neck if ventilation compromised.

Approved:

EMS Medical Director

BLS	ALS
Neurological Trauma (Head and Spine Injuries): Ensure adequate oxygenation without hyperventilating patient. Traumatic Arrest: CPR. D/C per *BHPO*.	Neurological Trauma (Head & Spine Injuries): If GCS ≤8: Intubate - RSI Mannitol 0.5Gm/kg IV over 10-15 min **Criteria for use** • Lateralizing signs • Posturing • Asymmetrical pupilliary responses not due to direct ocular trauma or history. Consider NG/OG tube Spinal Cord Injury: Dopamine 400mg/250ml, 5-40 mcg/kg/min titrate to BP =100-120 mm Hg systolic **Consider:** Solumedrol 30mg/kg IV slowly with GCS >12 (contraindicated in Head Injury) Severe Respiratory Distress(with absent breath sounds, hypotension, cyanosis or tracheal deviation) Needle Thoracostomy or Chest Tube Insertion prn Severe Respiratory Distress (with complete airway obstruction): Needle/surgical cricothyrotomy/Combitube. Traumatic Arrest 2 IV's wide open enroute Consider NG enroute Discontinue resuscitative efforts per policy A-406

Note: Preserve and transport amputations with patient.

TRANSPORT GUIDELINES:
Routine Disposition-Pediatric patients who meet criteria outlined in T-461 "Identification of the Pediatric Trauma Center Candidate" should be delivered to the Children's Hospital Emergency Department, EXCEPT in the following situations:

1. Adult + Child:

a. If there is a single ambulance (air/ground) with both a pediatric trauma center candidate AND an adult trauma center candidate, the ambulance should first deliver the more critical patient to the appropriate facility (peds-Childrens; adult-Sharp). If both patients are critical, or if there are other questions, both may be delivered to Sharp.

b. Field personnel should consider splitting the team using additional ALS transport vehicles, or aeromedical resources to transport the pediatric patient to Childrens and the adult to the catchment area trauma facility.

2. Bypass/Diversion: If Children's Hospital Trauma Center is "on bypass", pediatric trauma candidates should be delivered to the closest appropriate (i.e. catchment area)facility.

Approved:

EMS Medical Director

PROCEDURE:

To direct prehospital personnel during an incident with multiple patients that does not require the activation of Annex D.

BLS/ALS

A. First in radio person will assume responsibility for all scene communication.

B. Only one (1) BH will be contacted during the entire incident including during transport.

C. Prehospital providers will utilize Simple Triage and Rapid Transport (START) guidelines to determine priorities of treatment and transport.

D. If staffing resources are limited, CPR need not be initiated for arrest victims, however if CPR has been initiated prior to arrival of ALS personnel or briefly during assessment, discontinue only if one of the following occurs or is noted:

a) subsequent recognition of obvious death SO
b) per *BHPO*
c) presence of valid DNR Form/Order Medallion SO
d) lack of response to brief efforts in the presence of any other potentially salvageable patient requiring intervention.
*** ALS discontinue resuscitation based on Policy A-406

E. Split the aeromedical team, contact BH to confirm destination prior to leaving scene or ASAP enroute, SO. (If the aeromedical team is split, each paramedic and/or nurse may still perform ALS duties as per the protocols and their scope of practice). **** In the event that patients are transported by other than aeromedical team, medical modalities initiated by the aeromedical team can be continued per S-135.***

F. Radio communication must include the following on each patient:
1. patient number assignment (i.e., #1, #2 . . .)
2. age
3. sex
4. mechanism
5. chief complaint
6. abnormal findings
7. treatment initiated

G. Assisting medical transporting responders who arrive on scene should refrain from actions which delay rapid transport.

Approved:

EMS Medical Director

SUBJECT: AIR MEDICAL -TREATMENT PROTOCOL -- PAIN MANAGEMENT **Date: 7/1/03**

BLS	ALS
Assess level of pain using standardized pain scale provided below Ice, immobilize and splint when indicated Elevation of extremity trauma when indicated	**Pain score Pain score assessment of ≤ 4*:*** Continue to monitor and reassess pain as appropriate. **For treatment of pain score assessment of ≥ 5 with *BP* ≥ *100 mmHG*:** MS 10 - 30mg PO **OR** MS 5- 10mg IM **OR** MS 2-4 mg increments to max of 20mg

Note: These orders may be implemented after the paramedic assesses the level of pain and determines if patient agrees to treatment.
ALL patients with a traumatic or pain-associated chief complaint will have a paramedic assessment of level of pain using a standardized pain scale. All patients will be offered treatment for pain, unless contraindicated, and level of pain relief will be assessed after each treatment is given and prior to the end of the run.
The parenteral dose relative strength of MS is 1/3 the oral dose of MS.

Approved:

EMS Medical Director

BLS	ALS
For a conscious patient: Reassure, encourage coughing. O_2 prn. 5 abdominal thrusts only if complete airway obstruction, MR prn (Chest thrusts in obesity/pregnancy). If patient becomes unconscious OR has a decreasing LOC: 5 abdominal thrusts. MR prn. If patient is unconscious when found: Attempt to ventilate. (Reposition prn). 5 abdominal thrusts prn. NOTE: 5 chest thrusts and back blows for infants <1 year, MR prn. Once obstruction is removed: High flow O_2, ventilate prn. NOTE: If suspected epiglottitis; put patient in sitting position. Do not visualize the oropharynx STAT transport.	If patient becomes unconscious or has a decreasing LOC: Direct laryngoscopy and Magill forceps, MR prn. If unsuccessful in removing a complete airway obstruction: Needle Cricothyrotomy / Surgical Cricothyrotomy or Combitube. Once obstruction is removed: Monitor EKG, Pulse Oximeter IV TKO

Transport:

STAT transport while continuing thrusts

Approved:

EMS Medical Director

BLS	ALS
Ensure patent airway, O_2 and/or ventilate prn. Spinal immobilization when indicated. Secretion problems, position on affected side. Do not allow patient to walk. Restrain prn.	Identify and treat cause. Intubate prn, consider RSI Monitor EKG, Pulse Oximeter IV TKO, adjust rate prn. Venous/capillary blood sampling. Suspected Opiate OD Narcan 0.1mg/kg IV/IM in symptomatic ?opioid OD, excluding opioid dependent pain management patients, MR.
Hypoglycemia (suspected): If patient is awake and has gag reflex, give 1 packet If patient is not conscious, NPO	Hypoglycemia: Altered LOC: D_{25} 2cc/kg IVP if BS ≤75mg/dl (Infant ≤60mg/dl), MR. D_{25} 2cc/kg IVP if BS unobtainable. D_{25} 2cc/kg IVP if BS >75mg/dl (Infant ≤60mg/dl) if result? Glucagon .05mg/kg IM (if no IV) in patient with altered LOC and BS ≤75mg/dl (Infant ≤60mg/dl) or unobtainable.
Seizures: Protect airway, and protect from injury Treat associated injuries Spinal immobilization prn. If febrile remove excess clothing. Behavioral Emergencies: Restrain only if necessary to prevent injury. If LOC is diminished, use prone or lateral position. Consider law enforcement support. For patients under 72 hour hold, encourage their participation in the transport without restraints.	Seizures: FOR: a. Ongoing generalized seizures lasting >five(5) min. b. Focal seizures with respiratory compromise. c. Recurrent seizures without lucid interval. d. Prolonged focal seizure GIVE: Versed 0.1mg/kg IVP (max dose 5 mg), MR in 10" **OR** Versed 0.2mg/kg IM (max dose 10 mg), MR in 10" **OR** Ativan 0.1 mg/kg slow IVP or IM MR up to 4 mg

Approved:

EMS Medical Director

BLS

Ensure patent airway.

0_2 and/or ventilate prn.

Remove sting/injection mechanism.

May assist patient with meds, but may NOT administer.

Latex Sensitive Patients
Should be managed in a latex safe environment without compromising patient care. Prehospital personnel should inform the receiving facility personnel at the time of transfer if they become aware that the patient is latex sensitive.
Pediatric patients with a long or complex medical history (such as spina bifida, cerebral pals y, or neurologic disorders) frequently exhibit latex sensitivity.
Questions regarding the management of latex sensitive patients should be referred to the Base Hospital.
See Management of Latex Sensitive Patients (Equipment List)
S-105)

ALS

Monitor O2 Saturation prn
Monitor EKG prn
Intubate/Cricothyrotomy for laryngeal edema.
IV TKO, adjust rate prn.

Allergic reaction (may include mild hypotension):
Benedryl 1mg/kg IM/IVP
IV TKO adjust rate prn .

In the presence of respiratory distress with bronchospasm:

Albuterol 6ml (0.083%) via O_2 powered nebulizer, MR.
Atrovent 2.5 mls added to first Albuterol treatment

Exposure to Allergen with Known Severe Reaction with onset of any allergic symptoms (e.g. urticaria, swelling etc)

Epinephrine 1:1000 0.01mg/kg SC
Benadryl 1mg/kg IM/IVP.
Consider:
Solumedrol 1-2mg/kg IVP.

In the presence of respiratory distress with bronchospasm:

Albuterol 6ml (0.083%) via O_2 powered nebulizer, MR.
Atrovent 2.5 mls added to first Albuterol treatment

Anaphylaxis:
IV 20ml/kg, MR.
Epinephrine 0.01mg/kg 1:1000 SC, MR q10" x2 (max 0.3ml)

Epinephrine 0.01mg/kg 1:10,000 IV, MR.
OR
Epinephrine 0.2mg/kg 1:1,000 ET , MR.

Benadryl 1 mg/kg (not to exceed 50mg).

Consider:
Solumedrol 1-2mg/kg IVP.

In the presence of respiratory distress with bronchospasm:
Albuterol 6ml (0.083%) via 0_2 powered nebulizer, MR.
Atrovent 2.5 mls added to first Albuterol treatment

Approved:

EMS Medical Director

BLS	ALS
Assess level of consciousness Determine peripheral pulses Ensure patent airway, ventilate prn CPR when heart rate indicates and patient is unstable: **Unstable Bradycardia:** Includes one or more of the following: A. Heart rate: Infant (<1 yr) <80 bpm Child (1-8 yrs) <60 bpm (9-14 yrs) <40 bpm B. Poor Perfusion (cyanosis, delayed capillary refill, mottling) C. Altered LOC, Dyspnea or BP [70+ (2 x age)] D. Diminished or absent peripheral pulses NOTE: ?dehydration may cause tachycardias up to 200/min.	Monitor EKG/ Pulse Oximeter IV TKO, adjust rate prn **(May consider intraosseous if unable to start IV line)** Intubate prn Insert OG prn **Supraventricular tachycardia (Premie-3yrs >240bpm** **4yrs or older >200bpm):** VSM/CSM Adenosine 0.1mg/kg(max 6mg)IVP, follow with 20ml NS IVP (Use extreme caution in patients with a history of bronchospasm. Adenosine 0.2mg/kg (max 12mg)IVP, follow with 20ml NS IVP, MR x1. Versed 0.1mg/kg slow IVP (1mg/min) in patients > 20 kg, prn precardioversion. Synchronized cardioversion 1j/kg, MR with 2j/kg, 4j/kg, 4j/kg (Contraindicated if unable to deliver <4j/kg). **Asystole:** Epinephrine 1:10,000, 0.01mg/kg IVP, MR q3-5" **OR** Epinephrine 1:1000, 0.2mg/kg ET, MR q3-5". **Unstable Bradycardia:** (see definition in left column) Epinephrine 1:10,000, 0.01mg/kg IVP, MR q3-5" **OR** Epinephrine 1:1000, 0.2mg/kg ET, MR q3-5". If age ≥30days: (after 2nd Epinephrine dose): Atropine 0.02mg/kg IV q5" to a max of 3mg absorbed dose (Minimum dose 0.1mg). **OR** Atropine 0.04mg/kg ET to a max of 3mg absorbed dose (Minimum dose 0.1mg). If a stable rhythm is restored but hypotension persists, administer Epinephrine 1:10,000, 0.05mg/kg IVP, MR q10" **OR Consider:** Epinephrine drip 0.1-0.5mcg/kg/min IV.

Approved:

EMS Medical Director

BLS	ALS
	PEA: Epinephrine 1:10,000, 0.01mg/kg IVP, MR q3-5" **OR** Epinephrine 1:1000, 0.2mg/kg ET, MR q3-5". Fluid challenge 20cc/kg, MR. **VF/pulseless VT:** Defibrillate 2joules/kg, 4j/kg, 4j/kg . Epinephrine 1:10,000, 0.01mg/kg IVP **OR** Epinephrine 1:1000, 0.2mg/kg ET, MR q3-5". Amiodarone 5mg/kg to max 300mg IV bolus **OR** Lidocaine 1.0mg/kg IVP, MR x1 in 3-5"to a maximum of 3mg/kg absorbed dose (including initial bolus). **OR** Lidocaine 2mg/kg ET, MRx1 in 3-5"to a maximum of 3mg/kg absorbed dose (including initial bolus). **Post conversion VT/VF (if not already given):** If Amiodarone is the converting agent: Amiodarone 1 mg/min IV drip Lidocaine 1.0mg/kg IV, MR at 0.5mg/kg q8-10" not to exceed a total of 3mg/kg (including initial bolus, absorbed dose) **OR** Lidocaine 2mg/kg ET, MR at 1mg/kg q3-5" not to exceed 3mg/kg absorbed dose (including initial bolus)

Discontinue resuscitative efforts based on policy A-406

Approved:

EMS Medical Director

BLS	ALS
O_2 and/or ventilate prn. JELLYFISH STING: Rinse with alcohol; do not rub or apply pressure. STINGRAY OR SCULPIN INJURY: Heat as tolerated. SNAKEBITES: Mark proximal extent of swelling. Keep involved extremity at heart level and immobile.	Monitor EKG/ Pulse Oximeter prn Intubate prn IV TKO prn, adjust rate prn MS 0.1mg/kg IVP to 10mg prn pain If unable to start IV or give IM use MS IR per Pain Management Protocol SNAKEBITES: 20ml/kg NS IV bolus & repeat q30" MS 0.1mg/kg IVP to 10mg prn If unable to start IV or give IM use MS IR per Pain Management Protocol Symptomatic Black Widow Spider Bites: Ativan 0.05-.01mg/kg slow IVP or IM MR to max of 2 mg. Calcium Gluconate 1.1-1.5 mls/kg IVP

Approved:

EMS Medical Director

BLS	ALS
Ensure patent airway. O_2 and/or ventilate prn Ingestions: Identify ingested substance Consider transport LEFT side for ingestions. Skin: Remove clothes and brush off, or rinse substance with copious amounts of water. Inhalation of Smoke/Gas/Toxic Substance: Move patient to safe environment. ?Tricyclic OD: Hyperventilate Identify ingested substance. Protect from injury.	Monitor EKG. IV TKO, adjust rate prn. Monitor O2 Saturation prn Ingestions: Charcoal 1Gm/kg PO (excluding isolated iron ingestion). Assure child has gag reflex and is cooperative. Symptomatic ? opioid OD (*excluding opioid- dependent pain management patients*): Narcan 0.1mg/kg up to a maximum dose of 2 mg direct IVP/IV/IM, MR Symptomatic ? opioid OD in opioid -dependent pain management patients: Narcan 0.1mg/kg titrate 0.1mg increments up to a maximum dose of 2 mg direct IVP/IV (dilute IV dose to 10 ml with NS) or IM. Organophosphate poisoning: Atropine 0.02mg/kg IVP/IM, MR q1" prn **OR** Atropine 0.04mg/kg ET ,MR q1" prn Extrapyramidal reactions: Benadryl 1mg/kg slow IVP/IM. ?Tricyclic OD with cardiac effects (i.e. widened QRS) : $NaHCO_3$ 1mEq/kg IVP, MR

NOTE:
Charcoal is ineffective with alcohols, heavy metals, lithium, iron.

Approved:

EMS Medical Director

BLS	ALS
BABY: Keep warm and dry. (WRAP IN WARM DRY BLANKET) Ensure patent airway. O_2, ventilate 100% O2 prn. Apply an identification band/bracelet. Document time of delivery. **Routine Delivery:** Suction baby's airway first mouth then nose when head is delivered and prn. Clamp and cut cord between clamps following delivery APGAR at 1" and 5". **Meconium delivery:** Additional vigorous suctioning and BVM ventilation may be necessary. If mechanical suction is used keep pressure between 80 and 100 cm H2O otherwise use bulb syringe. **Cord wrapped around neck:** Slip the cord over the head and off the neck; clamp and cut the cord if wrapped too tightly. **Prolapsed cord:** Place the mother in shock position with her hips elevated on pillows, or knee chest position. Insert a gloved hand into the vagina and gently push the presenting part off the cord. TRANSPORT STAT WHILE RETAINING THIS POSITION. DO NOT REMOVE HAND UNTIL RELIEVED BY HOSPITAL PERSONNEL. **Breech Birth:** Allow infant to deliver to the waist without active assistance (support only); when legs and buttocks are delivered, the head can be assisted out. If head does not deliver within 4-6 min, insert a gloved hand into the vagina and create an airway for the infant. Transport STAT if head undelivered. **Premature and/or Low Birth Weight Infants:** STAT transport. When HR <100bpm, ventilate 100%O2. If HR <80bpm p1" ventilation, then CPR. CPR need NOT be initiated if there are no signs of life AND: a) weight <500Gm OR, b) gestational age is <24 weeks, OR, c) eyelids are fused closed.	BABY: Monitor O2 saturation prn Ventilate 100% O2 if HR<100 bpm. If HR remains <80bpm p 1" ventilation, then intubate and perform CPR NG prn **Premature and low birth weight infants:** Monitor EKG

Disposition: Direct to Labor/Delivery area
Note: If time allows, place identification bands on mother and infant

Approved:

EMS Medical Director

BLS	ALS
Ensure patent airway. Dislodge any airway obstruction. Transport in position of comfort. Reassurance. O_2 and/or ventilate prn. Hyperventilation: Coaching/reassurance. Remove patient from causative environment. Consider ?organic problem. Toxic Inhalants (CO exposure, Smoke, Gas, etc): Move patient to a safe environment 100% O2 via mask Consider transport to facility with hyperbaric chamber. Respiratory Distress with Croup-like Cough: Aerosolized Epinephrine via oxygen powered nebulizer/mask.	Monitor EKG Monitor O2 saturation prn. Intubate prn, consider RSI. IV TKO, adjust rate prn. Respiratory Distress with Bronchospasm (?respiratory etiology): Albuterol 3ml (0.083%) via 0_2 powered nebulizer MR. Atrovent 2.5ml, 0.02% via O2 powered nebulizer with first dose Albuterol. *If severe respiratory distress with bronchospasm or inadequate response to Albuterol/Atrovent consider:* Epinephrine 0.01mg/kg 1:1,000 SC (max 0.3mg), MR in 10" **Consider:** Solumedrol 1-2mg/kg IV. Magnesium Sulfate 25-50 mg/kg IV over 20 minutes to max of 2 Gm. Respiratory Distress due to ?Pneumothorax Needle thoracostomy or chest tube insertion. Complete Airway Obstruction (as last resort effort): Needle/surgical cricothyrotomy.

NOTE: If history suggests epiglottitis, do NOT visualize airway.

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Approved:

EMS Medical Director

BLS	ALS
Assess level of consciousness Ensure patent airway, 0_2 and assist ventilation. Determine peripheral pulses and capillary refill. Control hemorrhage Protect from injury	IV TKO, Adjust prn Monitor EKG Monitor O2 Saturation Intubate prn Fluid challenge: 20 ml/kg IV for shock. MR if no known history of heart disease. **Consider:** Dopamine 5-20mcg/kg/min IV drip, adjust to maintain BP.

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Approved:

EMS Medical Director

BLS	ALS
Ensure patent airway, protecting C-spine. Spinal immobilization prn. O_2 and/or ventilate prn. Control obvious bleeding Abdominal Trauma: Cover eviscerated bowel with saline pads. Chest Trauma: Cover open chest wound with three-sided occlusive dressing; release dressing if? tension pneumothorax develops. *Extremity Trauma: Splint neurologically stable fractures as they lie. Use traction splint as indicated Grossly angulated long bone fractures with neurovascular compromise may be reduced with gentle unidirectional traction for splinting per BHO. Impaled Objects: Immobilize & leave impaled objects in place. Remove per *BHPO* **Exception**: may remove impaled object in face/cheek, or from neck if there is total airway obstruction Neurological Trauma (Head and Spine Injuries): Assure adequate ventilation without hyperventilation.	IV TKO, adjust prn, Monitor EKG/ Pulse Oximeter Intubate prn; consider RSI for GCS ≤8. Crush Injury: IV, adjust prn (Rate 20ml/kg when extremity released) $NaHCO_3$ 1mEq/kg IVP Hypovolemic Shock NS 20ml/kg IV bolus, adjust rate to maintain BP> [70 +(2 x age)] Extremity Trauma: MS 0.1mg/kg IVP to 10mg for isolated injuries If IV or IM Unable: MS IR per Pain Management Protocol Grossly angulated long bone fractures may be reduced with gentle unidirectional traction for splinting Impaled Objects: Immobilize & leave impaled objects in place. May remove impaled object in face/cheek or neck if ventilation compromised. Neurological Trauma (Head & Spine Injuries) If GCS ≤8: Intubate -RSI Mannitol 0.5gm/kg IV over 10-15 min **Criteria for use:** • Lateralizing motor signs • Posturing • Asymmetrical pupilliary responses, not due to direct ocular trauma or history **Consider:** NG/OG Spinal Cord Injury: NS 20ml/kg IV fluid challenge, MR Dopamine at 5-40mcg/kg/min titrate to BP systolic 100mm Hg **Consider:** Solumedrol 30mg/kg IV slowly with GSC>12 (contraindicated in head injury) Severe Respiratory Distress (absent breath sounds, hypotension, or cyanosis): Needle thoracostomy or chest tube insertion

*Preserve and transport amputations with patient

Approved:

EMS Medical Director

	Severe Respiratory Distress (with complete airway obstruction): Needle/surgical cricothyrotomy
Traumatic Arrest: CPR D/C per *BHPO*.	Traumatic Arrest: 2 IV's 20ml/kg, MR. NG/OG enroute Discontinue resuscitative efforts per policy A-406

TRANSPORT GUIDELINES:
Routine Disposition-Pediatric patients who meet criteria outlined in T-461 "Identification of the Pediatric Trauma Center Candidate" should be delivered to the Children's Hospital emergency department, EXCEPT in the following situations:

1. Adult + Child:

a. If there is a single ambulance (air/ground) with both a pediatric trauma center candidate AND an adult trauma center candidate, the ambulance should first deliver the more critical patient to the appropriate facility (peds-Children's; adult-Sharp). If both patients are critical, or if there are other questions, both may be delivered to Sharp.

b. Field personnel should consider splitting the team using additional ALS transport vehicles, or aeromedical resources to transport the pediatric patient to Children's and the adult to the catchment area trauma facility.

2. Bypass/Diversion: If Children's Hospital Trauma Center is "on bypass", pediatric trauma candidates should be delivered to the closest appropriate (i.e. catchment area) facility.

Approved:

EMS Medical Director

BLS	ALS
Move to a safe environment. Break contact with causative agent. Ensure patent airway, O_2 and/or ventilate prn. Treat other life threatening injuries. THERMAL BURNS: Burns of <10% BSA cool with non-chilled saline or water. For burns of ≥ 10% BSA, cover with dry dressing and keep warm. Do not allow patient to become hypothermic. CHEMICAL BURNS: Flush with copious water. Brush off dry chemicals. TAR BURNS: Cool with water, transport; do not remove tar.	Monitor EKG Monitor O2 Saturation Intubate prn IV TKO prn, adjust prn For patients meeting burn center criteria: 5-14 yo IV NS 250 ml/hr <5 yo IV NS 150 ml/hr Burns without respiratory involvement: MS 0.1 mg/kg increments IVP to a max of 10mg If IV or IM unable: MS IR per Pain Management Protocol *In the presence of respiratory distress with bronchospasm:* Albuterol 6ml 0.083% via Nebulizer MR Atrovent 2.5ml 0.02% added to first dose of Albuterol

Note: Base hospital Contact and Transport (Per S-415) Will be made to UCSD Base Hospital for patients meeting burn center criteria.

BURN CENTER CRITERIA: Patients with burns involving:

- ≥10% 2nd or 5% 3rd degree of BSA
- suspected respiratory involvement or significant smoke inhalation in a confined space
- significant injury of the face, hands, feet or perineum or circumferential
- significant electrical injury due to high voltage (> than household current/110 volts)

Disposition: Hyperbaric chamber for suspected CO poisoning.

Approved:

EMS Medical Director

BLS	ALS
Ensure patent airway. Ventilate. CPR	Where no monitor available: Consider early Base hospital contact for disposition/pronouncement at scene. Ventilate per BVM X 1min., then reassess HR prior to drug therapy Defibrillate. Intubate. IV TKO . NG prn Monitor O2 Saturation Epinephrine 1:10,000, 0.01mg/kg IVP, MR q3-5". Epinephrine 1:1000, 0.1mg ET, MR q3-5". Epinephrine 1:1000 10 mg diluted to 20 mls ETAD-esophageal port 1 (blue) MR q 3-5 minutes. For patients in non-perfusing rhythms, flush line with 3 mls of NS after administration of each medication. Defibrillate.

Approved:

EMS Medical Director

SUBJECT: PEDIATRIC AIR MEDICALTREATMENT PROTOCOL – PAIN MANAGEMENT

BLS	ALS
Assess level of pain Immobilize/splint when indicated Ice/elevation when indicated	**Pain score assessment of ≤ 4*:*** Continue to monitor and reassess pain as appropriate. **For treatment of pain score assessment of ≥ 5 with *BP ≥ 70 + 2x age in years*:** MS 2-10mg PO per pediatric drug chart. MR to max of 30mg PO. **OR** MS 1-5mg IM per pediatric drug chart. MR to max of 10mg IM. **OR** MS 1-10mg IV per pediatric drug chart. MR to max of 20mg .

Note: These orders may be implemented after the paramedic assesses the level of pain and determines if patient agrees to treatment.
ALL patients with a traumatic or pain-associated chief complaint will have a paramedic assessment of level of pain using a standardized pain scale. All patients will be offered treatment for pain, unless contraindicated, and level of pain relief will be assessed after each treatment is given and prior to the end of the run.
The parenteral dose relative strength of MS is 1/3 the oral dose of MS.

Approved:

EMS Medical Director

SUBJECT: PARAMEDIC TRAINING PROGRAM **Date: 07/01/02**
STUDENT ELIGIBILITY

I. **Authority**: Health and Safety Code, Division 2.5, Sections 1797.208 and 1797.214.

II. **Purpose:** To establish the minimum Paramedic Training Program student eligibility requirements.

II. **Policy**:

A. To be eligible to enter an approved Paramedic training program, an individual shall meet all the following requirements:

1. Possess a high school diploma or GED certificate.
2. Possess a current health care provider or professional rescue CPR card (AHA/ARC).
3. Possess a current EMT- Basic or EMT-Intermediate certificate.
4. Have the equivalent of at least six months experience in the provision of emergency care in the prehospital setting as an EMT-Basic or Intermediate.
4. Pass, by predetermined standards, a pre-entrance examination.
5. Meet requirements of affiliated clinical or field agencies which may include but not be limited to:
    a. Criminal background check
    b. DMV ambulance driver's license with current and valid Medical Examiner's certification
    c. Immunizations
    d. Drug screens.

Approved:

Steven Jones
Administrator

Medical Director

B. The minimum requirements identified in this policy shall not preclude paramedic training programs from requiring additional prerequisites, admission procedures, etc. as part of the application process.

Approved:

Administrator	**Medical Director**

SUBJECT: EMT-Paramedic Training Program Requirements and Procedures for Approval/Reapproval **Date: 7/1/96**

I. Authority: Health and Safety Code, Section 1797.208.

II. Purpose: To establish a mechanism for application and approval/reapproval of EMT-Paramedic (EMT-P) training programs in San Diego County.

III. Policy:

A. All EMT-Paramedic training programs must meet requirements as set forth in the California Code of Regulations, Title 22, Division 9, Chapter 4, and San Diego County Division of Emergency Medical Services (EMS) requirements as listed in the attached training program application.

B. All EMT-P training programs must provide a training program consisting of not less than 1000 hours to include:

1. A minimum of 320 hours of didactic and skills lab.
2. A minimum of 480 hours of field internship with a minimum of 40 ALS contacts.
3. A minimum of 160 hours of hospital clinical training.

C. All EMT-P Training Programs must have approval of the County of San Diego Division of EMS prior to the program being offered.

D. Program approval shall be for two years following the effective date of approval and may be renewed every two years subject to the procedure for program approval.

E. All approved EMT-P training programs shall be subject to periodic review by the Department of Health Services, Division of EMS and may also be reviewed by the State of California EMS Authority. This review may involve periodic review of all program materials, and periodic on-site evaluations.

F. All approved training programs shall notify the Division of EMS in writing, in advance (when possible, and in all cases within 30 days) of any change in course content, hours of instruction, course director,

Approved:

Gail F Cooper — **Administration**

M.D. — **Medical Director**

program medical director, provisions for hospital clinical experience, or field internship.

G. Noncompliance with any criterion required for program approval, use of any unqualified teaching personnel, or noncompliance with any other applicable provision of Title 22, Division 9, Chapter 4 of the California Code of Regulations may result in suspension or revocation of program approval by the Department of Health Services, Division of EMS. An approved EMT-P training program shall have no more than 60 days from date of written notice to comply with the regulations.

IV. Procedure:

A. To receive program approval all requesting training programs shall submit all materials requested on the "CHECK LIST: EMERGENCY MEDICAL TECHNICIAN PARAMEDIC, TRAINING PROGRAM APPLICATION" (see attached).

B. Program approval or disapproval shall be made in writing by the Department of Health Services, Division of EMS to the requesting training program within a reasonable period of time after receipt of all required documentation. This period of time shall not exceed three months.

C. The Department of Health Services, Division of EMS shall establish the effective date of program approval in writing upon the satisfactory documentation of compliance with all program requirements.

Approved:

Gail F Cooper

Administration

Medical Director

Materials to be Submitted	Check One: Enclosed	To Follow	For County Use Only
1. Documentation of Eligibility for Program Approval. 100147(b)			
2. Letter to EMT-P Approving Authority Requesting Approval. 100152(a)			
3. Check list for EMT-P Program Approval.			
4. Completed Application Form for Program Approval.			
5. Program Medical Director Qualification Form and Job Description. 100148(a)			
6. Program Course Director QualificationForm and Job Description. 100148(b)			
7. Program Principle Instructor(s) Qualification Form and Job Description. 100148(c)			
8. Teaching Assistant(s). 100148(d) Submit Names and Subjects Assigned to Each Teaching Assistant and Job Description.			
9. Field Preceptor(s). Submit Names, Qualifications and Job Description. 100148(e)			
10. Hospital Clinical Preceptor(s). Qualifications Form and Job Description. 100148(f)			
11. Copy of Written Agreements with (one or more) Base Hospital(s) to Provide Clinical Experience. 100150			
12. Provisions for Supervised Hospital Clinical Training Including Student Evaluation Criteria, and Copy of Standardized Forms for Evaluating EMT-P Students and Monitoring of Preceptors by the Training Program. 100150(d)			
13. Copy of Written Agreement with (one or more) EMT-P Service Provider(s) to Provide Field Experience. 100151			
14. Provisions for Supervised Field Internship Including Student Evaluation Criteria, and Copy of Standardized Forms for Evaluating EMT-P Students and Monitoring of Preceptors by the Training Program. 100151			

Materials to be Submitted	Check One		
	Enclosed	**To Follow**	**For County Use Only**
15. Course Curriculum, including: A. Course Outline B. Statement of Course Objectives C. At least 6 Sample Lesson Plans D. Performance Objectives for Each Skill E. At least 10 Samples of Written Questions Used in Periodic Testing F. Final Skills Exam			
16. Completed Course Content Checklist			
17. Class Schedules: Places and Dates Estimate if Necessary. 100152			
18. Copy of Course Completion Record. 100161			
19. Copy of Liability Insurance on Students.			
20. Copy of Fee Schedule.			
21. Description of how Program Provides Adequate Facilities, Equipment, Examination Security and Student Recordkeeping. 100152			

COUNTY OF SAN DIEGO DIVISION OF EMERGENCY MEDICAL SERVICES

APPLICATION FORM

EMT-P TRAINING PROGRAM

1. Name of Institution/Agency _____

   Street _____

   City _____ Zip Code _____

   Telephone Number _____ Extension _____

2. Personnel:

   Program Medical Director _____

   Course Director _____

   Principal Instructor(s) _____

   _____

   _____

   _____

   _____

   _____

   Teaching Assistants _____

   (Name & Subjects Assigned)_____

   _____

   _____

   _____

   _____

Clinical Preceptors:

(Name and Base Hospital Affiliation)

Field Preceptors

Name	Agency	Date of Original EMT-P Certification	Other Emergency Care Experience

3. Course Hours:

   Total _____

   Didactic and Skills Lab _____

   Hospital Clinical Training _____

   Field Internship _____

4. Texts _____

COUNTY OF SAN DIEGO DIVISION OF EMERGENCY MEDICAL SERVICES
EMT-P TEACHING QUALIFICATIONS

Check One:

__ Program Director
__ Course Director
__ Principal Instructor
__ Clinical Preceptor

1. Name: _____

2. Occupation: _____

3. Professional or Academic Degrees Held:

   a. _____

   b. _____

   c. _____

4. Professional License/Certification Number(s):

   a. _____

   b. _____

   c. _____

5. California Teaching Credentials Held:

   a. Type: _____ Expiration Date: _____

   b. Type: _____ Expiration Date: _____

6. Emergency Care-Related Education within the last 5 years:

	Course Title	School	Course Length	Date Completed
a.				
b.				
c.				

7. Emergency Care-Related Experience within the last 5 years:

	Position	Duties	Organization	Dates
a.				
b.				
c.				

Approvals:

_____	_____	_____
Program Medical Director	Course Director	Date

COUNTY OF SAN DIEGO DIVISION OF EMERGENCY MEDICAL SERVICES
EMT-PARAMEDIC TRAINING PROGRAM
COURSE CONTENT CHECKLIST

	Page No.	County Use
Division 1: Prehospital Environment		
1. Roles and Responsibilities		
2. Emergency Medical Services Systems		
3. Emergency medical services systems components		
a. Recognition and access		
b. Initiation of the emergency medical services response		
c. Management of the scene		
d. Medical control		
e. Scene control		
f. When to call for backup		
4. Transportation of emergency personnel, equipment and the patient		
a. California Highway Patrol equipment mandate (requirements)		
b. Determination of destination		
5. Overview of hospital categorization and designation		
a. Base hospital		
b. Critical care centers (e.g., Trauma Centers, Pediatric Centers)		
c. Emergency facility - comprehensive, basic, standby		
d. Receiving hospital		
6. Communications overview		
a. Radio		
b. Telemetry		
c. Telephone		
7. Recordkeeping		
8. Multicasualty incidents and disasters		

COURSE CONTENT CHECKLIST (cont.)

		Page No.	County Use
9.	Role and responsibility of the State and local EMS system management		
10.	Laws governing the EMT-P		
	a. Abandonment		
	b. Child abuse, elder abuse,and other laws that require reporting		
	c. Consent - implied and informed		
	d. Good Samaritan Laws		
	e. Legal detention		
	f. Local policies and procedures		
	g. Medical control		
	h. Medical practice acts affecting the EMT-Ps		
	i. Negligence		
	j. Overview of EMT-I, EMT-II and EMT-P in California		
	k. Special procedures utilized for victims of suspected criminal acts including preservation of evidence		
	l. The health professional at the scene		
	m. Written medical records		
11.	Overview of issues concerning the health professional		
	a. Death and dying		
	b. Malpractice protection		
	c. Medical ethics and patient confidentiality		
	d. Safeguards against communicable diseases		
12.	Emergency medical services communication system		
	a. Radio communication		
	b. System components		
	c. Telephone communication		

COURSE CONTENT CHECKLIST (cont.)

		Page No.	County Use
13.	Communication regulations and procedures		
	a. Radio troubleshooting		
	b. Radio use		
	c. Role of Federal Communications Commission (FCC)		
	d. Radio mechanics, skills protocols		
14.	Extrication and rescue		
15.	Multicasualty disaster management		
	a. Local policies and protocols		
	b. Medical management		
	c. Triage		
16.	Hazardous materials, gas and radiation		
17.	Stress Management		
	Division 2: Preparatory Knowledge and Skills		
1.	Medical terminology		
2.	Basics of anatomy and physiology		
	a. Body cavities		
	b. Cardiovascular (circulatory) system		
	c. Digestive system		
	d. Endocrine system		
	e. Genitourinary system		
	f. Homeostasis		
	g. Integumentary system		
	h. Muscular system		
	i. Nervous system		
	j. Respiratory system		

COURSE CONTENT CHECKLIST (cont.)

	Page No.	County Use
k. Skeleton system		
l. Surface anatomy		
m. The cell		
n. Tissues		
3. Patient assessment		
a. Pertinent patient history		
b. Physical examination		
c. Prioritization of assessment and management		
d. Scene assessment		
4. Reporting format for presenting patient information		
5. Skills Protocols		
a. Diagnostic signs		
b. Patient assessment		
c. Reporting patient information		
6. Airway management including		
a. Bag/valve systems		
b. Demand valves		
c. Nasopharyngeal airways		
d. Oropharyngeal airways		
e. Oxygen administration devices		
f. Suctioning and portable suction equipment		
g. Chest auscultation		
h. Direct laryngoscopy ad use of Magill forceps for removal of foreign body		
i. Endotracheal intubation (ET)		
j. Esophageal airway (EGTA)		

COURSE CONTENT CHECKLIST (cont.)

k. Needle thorascostomy

(1) other skills included within the San Diego EMS EMT-P optional scope of practice

7. Pathophysiology of Shock

a. Acid-base balance

b. Blood and its composition

c. Body fluids and distribution

d. Electrolytes

e. Intravenous solutions

f. Osmosis and diffusion

g. Cardiogenic shock

h. Distributive shock

i. Hypovolemic shock

j. Obstructive shock

k. IV insertion

1) Peripheral

2) External jugular

3) Access indwelling IV devices including AV fistula shunts and heparin locks

l. Pneumatic antishock trousers and associated complications

m. Withdrawal of blood samples

8. General Pharmacology

a. Classifications

b. Factors which affect action, onset of action and duration

c. General drug actions

d. Home medications

e. Routes of administration

COURSE CONTENT CHECKLIST (cont.)

	Page No.	County Use
f. Terminology		
g. Drug dosages		
h. Computing dosages		
i. Weights and measures		
j. Autonomic nerves - Parasympathetic/sympathetic alpha/beta		
9. Specific drugs		
a. 25% and 50% dextrose		
b. activated charcoal		
c. aerosolized or nebulized beta-2 specific bronchodilators		
d. atropine sulfate		
e. bretylium tosylate		
f. calcium chloride		
g. diazepam		
h. diphenhydramine hydrochloride		
i. dopamine hydrochloride		
j. epinephrine		
k. furosemide		
l. glucagon		
m. heparin		
n. isoproterenol		
o. lidocaine		
p. morphine sulfate		
q. naloxone hydrochloride		
r. nitroglycerine		
s. oxytocin		
t. sodium bicarbonate		

COURSE CONTENT CHECKLIST (cont.)

	Page No.	County Use
u. syrup of ipecac		
v. terbutaline sulfate		
w. verapamil		
10. Drug preparation and administration skills		
a. Addition of drugs to IV		
b. Administration of drugs directly into a vein		
c. Administration of drugs through an endotracheal tube (as part of ET skill)		
d. Administration of drugs through an IV tubing medication port		
e. Inhalation		
f. Intramuscular injections		
g. Oral		
h. Subcutaneous injections		
i. Sublingual (not for injection)		
j. Sublingual injections		
Division 3: Trauma		
1. Soft tissue injuries		
a. Eye injuries		
b. Head and neck injuries		
c. Wounds - open and closed		
d. Bandaging		
e. Control of external hemorrhage		
f. Eye irrigation		
g. Immobilizing impaled objects		
h. Impaled objects including removal of impaled object in cheek		
i. Pneumatic antishock trousers		

COURSE CONTENT CHECKLIST (cont.)

		Page No.	County Use
2.	Musculoskeletal Injuries		
	a. Fractures		
	b. Dislocations		
	c. Sprains and strains		
	d. Pneumatic antishock trousers		
	e. Rigid splint		
	f. Sling and swathe		
	g. Traction splint		
3.	Chest Trauma		
	a. Hemothorax		
	b. Impaled objects		
	c. Myocardial and great vessel trauma		
	d. Pneumothorax and tension pneumothorax		
	e. Rib fractures and flail chest		
	f. Needle thoracostomy		
4.	Abdominal Trauma		
5.	Head and Spinal Cord Trauma		
	a. Cervical immobilization		
	b. Helmet removal		
	c. Spinal immobilization		
6.	Multisystem Injuries		
7.	Burns		

COURSE CONTENT CHECKLIST (cont.)

	Page No.	County Use
Division 4: Medical Emergencies		
1. Respiratory System		
a. Composition of gases in the environment		
b. Exchange of gases in the lung		
c. Regulation of respiration		
d. Respiration patterns		
e. Respiratory distress		
f. Asthma and chronic obstructive pulmonary disease		
g. Cerebral and brain stem dysfunction		
h. Dysfunction of spinal cord, nerves or respiratory muscles		
i. Hyperventilation syndrome		
j. Pneumonia		
k. Pulmonary embolism		
l. Spontaneous pneumothorax		
m. Upper airway obstruction		
n. Acute pulmonary edema		
o. Near drowning		
p. Toxic inhalations		
2. Cardiovascular System - Anatomy and Physiology		
a. Cardiac conduction system		
b. Cardiac cycle		
c. Cardiac output and blood pressure		
d. Electromechanical system of the heart		
e. Nervous control		
f. Components of the electrocardiogram record		
g. Electrophysiology		

COURSE CONTENT CHECKLIST (cont.)

	Page No.	County Use
h. Identifying normal sinus rhythm		
i. Dysrhythmia recognition, to include prehospital management		
1) Artifact		
2) Artificial pacemaker rhythms		
3) Atrial fibrillation		
4) Atrial flutter		
5) Cardiac standstill (asystole)		
6) Electromechanical dissociation		
7) First degree atrioventricular block		
8) Idioventricular rhythm		
9) Junctional rhythm		
10) Premature atrial contractions		
11) Premature junctional contractions		
12) Premature ventricular contractions		
13) Second degree atrioventricular block		
14) Sinus arrhythmia		
15) Sinus bradycardia (with hypotension)		
16) Sinus tachycardia		
17) Supraventricular tachycardia		
18) Third degree atrioventricular block		
19) Ventricular fibrillation		
20) Ventricular tachycardia		
j. Aortic aneurysm		
k. Cardiogenic shock		
l. Congestive heart failure		
m. Coronary artery disease, angina and acute myocardial infarction		

COURSE CONTENT CHECKLIST (cont.)

	Page No.	County Use
n. Hypertensive emergencies		
o. Advanced cardiac life support (ACLS) megacode modified for field situation		
p. Basic cardiac life support (BCLS)		
q. Cardiac monitoring		
r. Defibrillation and synchronized cardioversion		
s. Dysrhythmia recognition of the rhythms listed in subsection (2)(C)		
t. Vagal maneuvers, specifically, valsalva maneuvers		
3. Endocrine Emergencies		
a. Diabetes		
b. Glucose Monitoring		
4. Nervous System		
a. Autonomic nerves		
b. Brain and spinal cord		
c. Peripheral nerves		
d. Coma		
e. Seizures		
f. Stroke		
g. Syncope		
5. Acute Abdomen, Genitourinary and Reproductive Systems		
a. GI bleeding		
b. Diseases of genitourinary and reproductive systems		
6. Anaphylaxis		
7. Toxicology, Alcoholism and Drug Abuse		
8. Infectious and Communicable Diseases		

COURSE CONTENT CHECKLIST (cont.)

		Page No.	County Use
9.	Environmental Emergencies		
	a. Compressed air diving injuries and illnesses		
	b. Mountain sickness and other high altitude syndromes		
	c. Lightning and other electrical injuries		
	d. Poisonous and nonpoisonous bites and stings		
	e. The atmospheric and thermal environment and the physiology of temperature regulation		
	f. Cold exposure		
	g. Heat exposure		
	h. Thermal injuries and illnesses		
	i. Application of constricting bands		
	j. Snake bite kit		
10.	Pediatrics		
	a. Approach to parents and child		
	b. Growth and development		
	c. Cardiopulmonary arrest		
	d. Child abuse/neglect		
	e. Altered level of consciousness		
	f. Common communicable diseases (childhood illnesses)		
	g. Meningitis		
	h. Seizures		
	i. Near drowning		
	j. Poisoning		
	k. Allergic reactions/anaphylaxis		
	l. Asthma/bronchitis		
	m. Epiglottitis		

COURSE CONTENT CHECKLIST (cont.)

	Page No.	County Use
n. Foreign body aspiration		
o. Pneumonia		
p. Tracheobronchitis (croup)		
q. Sudden infant death syndrome		
r. Trauma, including shock		
s. Airway adjuncts utilized for neonates, infants and children		
t. Child resuscitation		
u. Cooling measures		
v. Infant resuscitation		
w. IV techniques		

Division 5: Obstetrical, Gynecological, Neonatal Emergencies

1. Anatomy and physiology of the female reproductive system.
2. Normal childbirth. The stages of labor and normal delivery, including assessment and management.
3. Obstetrical emergencies. Pathophysiology, specific patient assessment, associated complications, and the prehospital management of obstetric emergencies to include:
   a. Abnormal fetal presentation.
   b. Abortion
   c. Abruptio placenta
   d. Breech birth
   e. Failure to progress
   f. Multiple birth
   g. Placenta previa
   h. Post partum hemorrhage
   i. Premature birth

COURSE CONTENT CHECKLIST (cont.)

	Page No.	County Use

j. Prolapsed cord
k. Ruptured ectopic pregnancy
l. Supine hypotension syndrome
m. Toxemia of pregnancy.

4. Gynecological emergencies. Pathophysiology, specific patient assessment, associated complications, and the prehospital management of gynecologic emergencies to include:
   a. Pelvic inflammatory disease
   b. Ruptured ovarian cyst
   c. Vaginal bleeding
5. The neonate. Specific patient assessment, and the prehospital management of the neonate to include:
   a. APGAR scoring
   b. Resuscitation
   c. Temperature regulation
6. Skills protocols
   a. Assisting with breech delivery
   b. Assisting with normal deliveries, to include care of the newborn
   c. Management of the prolapsed cord
   d. Neonatal resuscitation

Division 6: Special Patient Problems

1. Behavioral Emergencies
   a. Emotional crisis
   b. Substance abuse
   c. Victims of assault, to include sexual assault
   d. Use of community resources

COURSE CONTENT CHECKLIST (cont.)

	Page No.	County Use
e. Application of restraints		
f. Management of difficult patient situations		
g. Behavioral responses to injury, illness, death and dying		
2. Assault Victims		
3. Geriatric Patients		
4. Disabled Patients		
5. Obstetrical, Gynecological, Emergencies		
a. Abnormal fetal presentation		
b. Abortion		
c. Abruptio placenta		
d. Breech birth		
e. Failure to progress		
f. Multiple birth		
g. Placenta previa		
h. Post partum hemorrhage		
i. Premature birth		
j. Prolapsed cord		
k. Ruptured ectopic pregnancy		
l. Supine hypotension syndrome		
m. Toxemia of pregnancy		
n. Normal birth		
o. Pelvic inflammatory disease		
p. Ruptured ovarian cyst		
q. Vaginal bleeding		
r. The neonate		

COURSE CONTENT CHECKLIST (cont.)

		Page No.	County Use
6.	Neonatal Emergencies		
	a. APGAR scoring		
	b. Resuscitation		
	c. Temperature regulation		
	d. Skills protocols		
	e. Assisting with breech delivery		
	f. Assisting with normal deliveries, to include care of the newborn		
	g. Management of the prolapsed cord		

SUBJECT: MOBILE INTENSIVE CARE NURSE -- AUTHORIZATION/REAUTHORIZATION

Date: 07/01/04

I. Authority: Health and Safety Code, Division 2.5, Sections 1797.56, 1797.213, and 1797.214.

II. Purpose: To define the process of Mobile Intensive Care Nurse (MICN) authorization and reauthorization.

III. Policy: To become authorized as a MICN in San Diego County, the following requirements must be met:

A. Authorization process:

1. The candidate for initial authorization must:

a. Be a Registered Nurse currently licensed in the State of California.

b. Possess a current ACLS course completion card.

c. Have received instruction in the following subjects pertinent to the MICN role (recommended minimum 30 hours of training).

(1) The MICN in the emergency medical service (EMS) system.

(2) Field assessment and reporting.

(3) Shock.

(4) Pharmacology.

(5) Respiratory emergencies.

(6) Cardiac emergencies.

(7) Neurological emergencies.

(8) Soft tissue emergencies.

(9) Musculoskeletal emergencies.

(10) Other medical emergencies.

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Administration **Medical Director**

(11) Obstetric emergencies.

(12) Pediatric emergencies.

(13) Geriatric emergencies.

(14) Behavioral emergencies.

(15) Multiple trauma and triage.

(16) San Diego County Policies, Procedures and Protocols.

d. Complete and submit proof of an internship consisting of:

(1) A Base Hospital orientation which includes the observation of paramedic functions on a minimum of three Paramedic responses which demonstrate advanced life support (ALS) skills.

(2) Observation of medical direction of patient care via direct voice communication with field personnel by a MICN/Base Hospital Physician for a minimum of 10 Paramedic calls under the supervision of the Base Hospital Nurse Coordinator or designee.

e. Successfully pass the MICN authorization examination, by predetermined standards, approved by the County of San Diego EMS Medical Director. If unsuccessful, the candidate may repeat the exam twice. If unsuccessful after three test sessions, the candidate must complete a remedial course of instruction prior to retest.

f. Submit an application form containing a statement that the individual is not precluded from authorization for reasons defined in Section 1798.200 of

the Health and Safety Code, proof of internship, documentation of successful completion of MICN Exam, and the established fee for testing and/or authorization.

2. Authorization periods shall end on either March 31 or September 30 of each year, up to, but not exceeding, 2 full years from the date of issue.

B. Reauthorization Process:

1. To be eligible for reauthorization, a currently authorized MICN shall:

a. Submit a completed San Diego County EMS application form and pay the established fee.

b. Provide documentation of attendance of 24 hours of multi-disciplinary prehospital continuing education, approved by a Base Hospital or the San Diego County EMS Agency, every 2 years. The course objectives for these courses shall be directly related to the MICN role. Course content may include, but is not limited to, case-based presentations, trends in prehospital care, protocol and policy review, and current concepts in prehospital care. Participation in courses with nationally standardized curricula, such as ACLS, PALS, PEPP or TNCC, do not qualify for MICN reauthorization credit.

2. Individuals who have let their MICN authorization lapse shall be eligible for reauthorization upon completion of the following:

a. For a lapse of less than 90 days, the applicant must meet the requirements of Section III. B.1, a & b of this policy.

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Administration **Medical Director**

b. For a lapse of greater than 90 days, but less than one year, the applicant must additionally meet the requirements of Section III. A. 1. d. (2). of this policy.

c. For a lapse of greater than one year, the applicant must additionally meet the requirement in Section III. A. 1. e. of this policy.

3. The Division of EMS reserves the right to require periodic mandatory training on new skills, protocols and policies or remedial training as a condition of continued authorization.

4. The Division of EMS reserves the right to withdraw or retract authorization pending resolution of disciplinary issues in accordance with local policy.

Approved:

Administration **Medical Director**

SUBJECT: PARAMEDIC ACCREDITATION **Date: 7/1/03**

I. Authority: Health and Safety Code, Division 2.5, Sections 1797.185 and 1797.214.

II. Purpose: To establish a mechanism for a paramedic to become accredited to practice in San Diego County.

III. Definition: Accreditation is authorization by the Medical Director of the San Diego County Emergency Medical Services (EMS) agency to practice paramedic skills within a specific jurisdiction as required by a specific local EMS agency (Title 22, CCR, Section 100140). Accreditation allows local EMS agencies to ensure that paramedics are trained in the optional skills and oriented to the local system (State Guideline 9195).

IV. Policy: A paramedic must be accredited by the County of San Diego, Health and Human Services Agency, Division of EMS in order to practice as a paramedic in San Diego County.

A. In order to be eligible for ~~initial~~ accreditation an individual shall:

1. Possess a current, valid California paramedic license.
2. Complete and submit an application for accreditation to the Division of EMS.
3. Successfully complete an accreditation workshop as prescribed by the Health and Human Services Agency, Division of EMS. This workshop shall not exceed eight hours and will include:
    a. Orientation to the local EMS system policies, procedures and protocols.
    b. Training and/or testing in any optional procedures authorized by the San Diego County EMS Medical Director, in which the individual has not been trained or tested.
4. Provide documentation of training or testing from another jurisdiction for local optional scope items.
5. Pay the established accreditation fee to the Division of EMS.
6. Possess a current ACLS course completion card.

B. Initial accreditation shall be effective for two years, or until the expiration date of the California paramedic license, whichever is earlier.

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C. Provisional Accreditation

1. Paramedics who have completed all requirements for initial accreditation other than the orientation requirement (IV.A.3. above) may be accredited on a provisional basis for up to 30 days pending the completion of the San Diego County Accreditation Workshop.
2. Provisional accreditation may be extended for up to 90 days with special authorization from the San Diego County EMS Medical Director.
3. Provisional accreditation status shall be allowed only once for a paramedic.
4. Individuals with provisional accreditation must:
   a. Work solely within the California paramedic Scope of Practice.
   b. Work as a second paramedic, only with a fully accredited (non-provisional) San Diego County paramedic.

D. Continued accreditation (reaccreditation). Accreditation to practice shall be continuous as long as Division of EMS requirements are met. These requirements are as follows:

1. Possession of a valid California paramedic license, and
2. Maintenance of current ACLS training (every two years).

E. Individuals who have allowed their paramedic accreditation to lapse for greater than one year shall, in addition to the requirements listed above in Section IV. D, successfully complete the examination portion of the Accreditation Workshop.

F. The Division of EMS shall notify individuals applying for accreditation of the decision to accredit within 30 days of application.

G. The Division of EMS shall submit the names of all individuals it accredits to the EMS Authority.

H. During an interfacility transfer, an individual who is accredited as a paramedic in one jurisdiction may utilize

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the paramedic scope of practice in another jurisdiction according to the policies and procedures established by their accrediting local EMS agency.

I. During a mutual aid response into another jurisdiction, a paramedic may utilize the paramedic scope of practice according to the policies and procedures established by their accrediting local EMS agency.

J. The Division of EMS reserves the right to require periodic mandatory training on new skills, training on new or revised protocols, or remedial training as a condition of continued accreditation.

K. The Division of EMS reserves the right to withdraw or restrict accreditation pending resolution of disciplinary issues, in accordance with state disciplinary regulations and local policy.

Approved:

Administration **EMS Medical Director**

SUBJECT: DESIGNATION OF AUTHORIZED PROVIDERS OF CONTINUING EDUCATION FOR EMERGENCY MEDICAL SERVICES PERSONNEL **Date: 07/01/02**

I. **Authority:** Health and Safety Code Sections 1797.214, 1797.220, Division 2.5.

II. **Purpose**: To establish a mechanism by which providers of continuing education may be designated an an "authorized provider" of prehospital continuing education (CE) in San Diego County.

III. **Definition**: Authorized Provider of Continuing Education – Any individual, partnership, corporation, association, organized health care system, governmental agency, educational institution, or other organization who completes the emergency medical services's (EMS) application process for providership and is authorized by San Diego County Division of EMS to provide CE activities for EMS personnel.

IV. **Policy**:

A. The San Diego County Health and Human Services Agency, Division of EMS will approve, for the purposes of recertification, relicensure, reaccreditation, or reauthorization, those CE activities sponsored by providers who are designated by the Division as authorized providers of CE and who comply with San Diego County policies, procedures, and guidelines for CE providers.

B. In order to become designated as an authorized provider of CE in San Diego County, applicants must:

1. Complete an application form and submit it, with appropriate documentation and fees, to the Health and Human Services Agency, Division of EMS. San Diego County Base Hospitals are exempt from the fee. The form must indicate whether the applicant is applying for approval to offer courses for basic life support (BLS) personnel and/or advanced life support (ALS) personnel.

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Administrator **Medical Director**

2. Agree to comply with all guidelines pertaining to authorized providers. For all providers, these guidelines are described in the Division's Guidelines for Authorized Providers of Continuing Education for Personnel in the San Diego County manual, available at the San Diego County Division of EMS office.

3. Provider applicants must designate the certification level(s) of their intended CE participants (ALS or BLS). Approval may be granted for only one certification level (BLS versus ALS/BLS) if the applicant cannot document their ability and resources to provide CE at all levels. This approval level may be adjusted after initial approval provided that the authorized provider can demonstrate that it has the requisite equipment and materials to provide this education in accordance with the guidelines.

C. Designation as an authorized provider shall be for a four year period, after which each provider must reapply.

D. Authorized providers are subject to periodic reviews of course outlines, attendance records, instructor qualifications, or other material pertaining to courses presented by the provider for CE credit. These reviews will be conducted by San Diego County Division of EMS staff.

E. Authorized providers failing to comply with applicable guidelines and procedures may have their designation suspended or revoked by the San Diego County Division of EMS.

Approved:

Administrator **Medical Director**

SUBJECT: CONTINUING EDUCATION FOR PREHOSPITAL PERSONNEL **Date: 1/1/95**

I. Authority: Health & Safety Code Section 1797.214, 1797.220,

II. Purpose: To identify the scope and role of the San Diego County emergency medical services (EMS) continuing education (CE) program for prehospital personnel.

III. Policy:

A. The CE program for prehospital personnel shall be recognized as an important link in the San Diego County systemwide quality improvement process, and will receive oversight from the EMS Medical Director (or his designee).

B. The CE program shall be implemented generally in accordance with the Guidelines for Continuing Education for Prehospital Personnel manual published by the State EMS Authority.

C. Within the requirements of San Diego policies regarding EMT-P accreditation, EMT-I certification, and MICN authorization, the San Diego County Division of EMS will accept CE activities approved by other California local EMS agencies (or through their approved providers of CE), for recertification/authorization/accreditation purposes.

D. The San Diego County Division of EMS shall publish and maintain the Guidelines For Authorized Providers of Continuing Education For Personnel in San Diego County manual and make that manual available to approved providers and potential providers. The manual shall identify the requirements for the provider designation and renewal process, specific guidelines for course approval, and other material specific to designated CE providers.

E. The Division shall maintain a list of current approved CE providers, including the contact person for the program, approval issue date and expiration date, and assigned provider number.

F. CE activities offered by San Diego EMS approved providers, in accordance with San Diego guidelines, shall be considered to be "approved" by San Diego EMS.

Approved:

Gail F Cooper — **Administration**

M.L. Adams — **Medical Director**

G. In addition to approval for CE activities presented by approved providers, the Division of EMS may, at its discretion, award CE credits for other activities not presented by approved providers. These include (but are not limited to) the following:

1. Emergency Aid Responder (EAR) Courses. Approved EAR courses are deemed by the San Diego EMS agency as equivalent to an EMT-I refresher course. Providers who have had their EAR curriculum approved by the Division of EMS may continue to offer these classes, regardless of their CE Provider status, for EMT-I recertification purposes. It is desired that new EAR programs be approved through the CE Providership program.
2. Nationally Recognized Curricula. Programs offered using nationally recognized curricula, such as the Red Cross/Heart Association CPR-C program, Prehospital Trauma Life Support (PHTLS), or ACLS may be utilized for recertification/licensure purposes regardless of the provider's CE Providership status. Partial credit (generally 25%) will be allowed for EMT-I's taking courses designed for the EMT-P or above (such as ACLS) at the discretion of the local EMS agency. It will be the responsibility of the participant to maintain a course completion record and course outline that indicates the total hours of the individual's participation (in activities relevant to the individual's level) for audit purposes.

H. The EMS Division will not pre-authorize course outlines from non-approved CE Providers to determine their possible acceptance for recertification purposes. Nationally recognized curricula presented by non-providers may be accepted and approved by the County, but individual courses, conferences, or other activities will not be recognized if they are not sponsored and approved by an authorized provider.

I. EMT-I's who have attended courses from non-providers (except in the case of a course using a nationally recognized course curriculum) must submit ALL OF THE FOLLOWING AT THE TIME OF

RECERTIFICATION/REACCREDITATION if they wish recertification credit:

1. Title of course, name of instructor, location, and telephone number of presenter
2. Date of course, course outline, course learning objectives, copy of evaluation form
3. The number of hours of information/experience relevant to EMT-I activities.

EMT-I's should be informed that there is no guarantee of acceptance of these courses for recertification. EMT-I's are reminded that extra activities may be required for recertification if the hours from a non-provider are rejected by the Division.

J. The Division of EMS will NOT review individual courses offered by non-approved providers for EMT-P CE credit. Paramedics wishing credit for activities sponsored by organizations located in California counties other than San Diego County should contact that county EMS Department. EMT-P's should contact the California EMS Authority for information on approval for courses offered by providers from out of state.

K. The Division maintains the authority to approve continuing education activities which may exceed the scope of the CE Guidelines Manual published by the Division. Any such determination by the Division is solely at its discretion.

Approved:

Gail F Cooper

Administration

M.D. [illegible]

Medical Director

SUBJECT: PUBLIC SAFTY DEFIBRILLATION (PS-D) TRAINING PROGRAM STUDENT ELIGIBILITY **Date: 07/01/03**

I. Authority: Health and Safety Code, Division 2.5, Sections 1797.170**,** 1797.196, 1797.208 and 1797.214.

II. Purpose: To establish the minimum requirements for Public Safety Defibrillation (PS-D) Training Program student eligibility.

III. Policy: To be eligible to enter an approved PS-D Training Program, an individual shall meet all the following requirements:

A. Successfully complete an approved Public Safety First-Aid Course.

B. Possess a current CPR Card (Health Care Provider/Professional Rescuer or equivalent).

Approved:

Administration **Medical Director**

SUBJECT: PUBLIC SAFETY-DEFIBRILLATION (PS-D) TRAINING PROGRAM REQUIREMENTS **Date: 07/01/03**

I. Authority: Health and Safety Code, Division 2.5, Sections 1797.170, 1797.206, 1797.208 and 1797.214.

II. Purpose: To establish standardized Public Safety-Defibrillation (PS-D) curriculum and program approval requirements.

III. Policy:

A. San Diego County, Division of Emergency Medical Services shall approve PS-D Training Programs.

B. Program approval or disapproval shall be made in writing by the Health and Human Services Agency, Division of Emergency Medical Services to the requesting training program within a reasonable period of time, not to exceed thirty (30) days, after receipt of all required documentation.

C. Program approval shall be renewed every four (4) years.

IV. Procedure:

A. The requesting training agency shall submit to the Division of Emergency Medical Services the following materials to be considered for program approval:

1. Outline and objectives for the minimum four (4) hour PS-D training course, to include:

a. Proper use, maintenance and periodic inspection of the automated external defibrillator (AED)

b. The importance of defibrillation, advanced life support (ALS), adequate airway care, and internal emergency response system, if applicable.

c. Overview of the EMS system, the local EMS system's medical control policies, 9-1-1 access, and interaction with EMS personnel.

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Administration **Medical Director**

d. Assessment of an unconscious patient, to include evaluation of airway, breathing, and circulation to determine cardiac arrest.

e. Information relating to AED safety precautions to enable the individual to administer a shock without jeopardizing the safety of the patient or rescuers or other nearby persons.

f. Recognition that an electrical shock has been delivered to the patient and that the defibrillator is no longer charged.

g. Rapid, accurate assessment of the patient's post-shock status.

h. The appropriate continuation of care following a successful defibrillation.

Approved:

Administration **Medical Director**

SUBJECT: PUBLIC SAFETY- DEFIBRILLATION ACCREDITATION **Date: 07/01/03**

I. **Authority:** Health and Safety Code, Division 2.5, Sections 1797.170, 1797.208, 1797.210, 1797.214, 1797.220, 1798.102 and 1798.104.

II. **Purpose:** To establish the requirements for Public Safety-Defibrillation (PS-D) accreditation in San Diego County.

III. **Policy:** Public Safety personnel must be accredited by the County of San Diego, Health and Human Services Agency, Division of Emergency Medical Services (EMS) in order to use the Automated External Defibrillator (AED) skill in San Diego County.

A. To become PS-D accredited in San Diego County, the following criteria must be met:

1. Possess a current CPR card (Health Care Provider/Professional Rescuer or equivalent).
2. Possess documentation of successful completion of an approved Public Safety First Aid Course.
3. Possess a valid PS-D Course Completion record from an approved PS-D Training Program.
4. Be affiliated with an approved PS-D agency in San Diego County.

B. The following continuing education **(**CE) requirements must be met to maintain PS-D accreditaiton:

1. Demonstrate skills proficiency annually, at a minimum.
2. Adhere to the CE requirements rests on the Physician Medical Director or designee to which the accredited PS-D is assigned.

C. Deactivation/Reactivation Process:

1. PS-D accreditation will become inactive for:
    a. Failure to comply with CE requirements
    b. Failure to maintain current CPR card.
    c. No longer affiliated with a PS/D agency.
2. The Physician Medical Director or designee shall be responsible for notifying the San Diego

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Administration **Medical Director**

County, Division of Emergency Medical Services, of PS-D personnel who are placed in inactive status on the first day of the following month.

3. Inactive status due to CE delinquency: The employing agency shall be responsible for notifying the employee and assuring inactive status until the CE delinquency is resolved and verified by the Physician Medical Director or designee.

4. Inactive status due to failure to maintain certification(s):

    a. Employing agency shall monitor status of employee certification(s).

    b. Employing agency shall notify the Physician Medical Director or designee of the agency of inactive status due to lapse in certification(s).

    c. The employing agency shall be responsible for notifying the employee and assuring inactive status until certification issue(s) resolved.

5. Reactivation Process:

    a. A PS-D on inactive status may be reactivated by fulfilling the following requirements:

    b. Inactive status due to CE delinquency -- shall be resolved to the satisfaction of the Physician Medical Director or designee.

    c. Inactive status due to failure to maintain current First Aid/CPR certification--submit proof of current PS First Aid/CPR certification/training to employer.

    d. The Physician Medical Director or designee shall be responsible for notifying the San Diego County, Division of Emergency Medical Services, of PS-D personnel who are removed from inactive status on the first day of the following month.

Approved:

Administration **Medical Director**

SUBJECT: ESOPHAGEAL TRACHEAL AIRWAY DEVICE **Date: 07/01/03**
TRAINING PROGRAM REQUIREMENTS EMT-Basic

I. Authority: Health and Safety Code, Division 2.5, Sections 1797.170, 1797.206, 1797.208, 1797.214 and 1797.218.

II. Purpose: To establish a standardized Esophageal Tracheal Airway Device (ETAD, or "Combitube®") curriculum and program approval requirements.

III. Policy:

A. San Diego County, Division of Emergency Medical Services (EMS) shall approve ETAD Training Programs.

B. Program approval or disapproval shall be made in writing by the Health and Human Services Agency, Division of EMS to the requesting training program within a reasonable period of time, not to exceed 30 days, after receipt of all required documentation.

C. Program approval shall be renewed every four years.

IV. Procedure:

The requesting training agency shall submit to the Division of EMS the following materials to be considered for program approval:

A. Documentation of current EMT-Basic program approval from County of San Diego, Division of EMS.

B. Curriculum course outline and objectives for the five hour ETAD training program, to include:

1. Anatomy and physiology of the respiratory system.

2. Assessment of the respiratory system.

3. Review of basic airway management techniques, which includes manual and mechanical.

4. The role of the esophageal-tracheal airway device in the sequence of airway control.

5. Indications and contraindications of the esophageal-tracheal airway device.

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Administration **Medical Director**

6. The role of pre-oxygenation in preparation for the esophageal-tracheal airway device.

7. Esophageal-tracheal airway device insertion and assessment of placement.

8. Methods for prevention of basic skills deterioration.

9. Alternatives to the esophageal-tracheal airway device.

10.Acompetency-based written and skills examination for airway management which shall include the use of basic airway equipment and techniques and use of the esophageal-tracheal airway device.

C. List of equipment to be used for skills training.

D. Documentation of access to equipment for skills training in sufficient quantities to meet 1:10 teacher/student ratio.

Approved:

Administration **Medical Director**

SUBJECT: ESOPHAGEAL TRACHEAL AIRWAY DEVICE STUDENT ELIGIBILITY **Date: 07/01/03**
EMT-Basic

I. Authority: Health and Safety Code, Division 2.5, Sections 1797.107, 1797.170,1797.214 and 1797.220.

II. Purpose: To establish the minimum requirements for Esophageal Tracheal Airway Device (ETAD, or Combitube^{R}") Training Program student eligibility.

III. Policy: To be eligible to enter an approved ETAD Training Program, an individual shall meet the following requirements:

A. Possess current State of California EMT-Basic Certification

B. Possess a current CPR card (Health Care Provider/Professional Rescuer or equivalent).

Approved:

Steven Jones

Administration

Medical Director

SUBJECT: ESOPHAGEAL TRACHEAL AIRWAY DEVICE ACCREDITATION **Date: 07/01/03**
EMT-Basic

I. Authority: Health and Safety Code, Division 2.5, Sections 1797.170, 1797.208, 1797.214, 1797.220, 1798.102 and 1798.104.

II. Purpose: To establish the requirements for accreditation as an EMT Basic in the use of Esophageal Tracheal Airway Device (ETAD)

III. Policy: A certified EMT Basic (EMT-B) must be accredited by the County of San Diego, Health and Human Services Agency, Division of Emergency Medical Services (EMS) in order to use the ETAD skill in San Diego County.

A. To become accredited in the use of the ETAD in San Diego County, the following criteria must be met:

1. Possess a current State of California EMT-B Certificate.
2. Possess a current CPR card (Health Care Provider/Professional Rescuer or equivalent).
3. Successfully complete an ETAD course approved by the Division of EMS Medical Director.

B. Accreditation shall be valid for as long as the following criteria are met:

1. Current State of California EMT-B Certification is maintained.
2. Current CPR card is maintained.
3. The following continuing education (CE) requirements are maintained.
   a. Attend a structured training session relative to ETAD skills a minimum of once every six months, from San Diego County approved CE providers only.
   c. After initial accreditation, demonstrate ETAD skill proficiency monthly for six months; then once every six months.
   e. Skills proficiency shall be documented on an ETAD CE record, and maintained by the authorized ETAD agency or designated base hospital.

C. The ETAD accreditation will become inactive for any of the following:

1. Failure to comply with CE requirements: The provider agency shall be responsible for notifying the

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Administration **Medical Director**

employee and assuring inactive status until the CE delinquency is resolved

2. Failure to maintain current EMT-B Certification.

   a. Employing agency shall monitor status of employee certification.

   b. Employing agency shall notify the assigned AEAMD/ BHMD/designee of inactive status due to lapse in certification.

   a. The provider agency shall be responsible for notifying its employees and assuring inactive status until certification issues are resolved.

3. The Authorized ETAD Medical Director (AEAMD)/BHMD/designee shall be responsible for notifying the Division of EMS of ETAD personnel who are placed on inactive status on the first day of the month following the delinquency.

D. Reactivation Process: An EMT-B with inactive ETAD accreditation may be reactivated by fulfilling the following requirements:

1. Inactive status due to CE delinquency -- shall be resolved to the satisfaction of the AEAMD/BHMD/ designee.

2. Inactive status due to failure to maintain current EMTB certification--submit proof of current certification/training to employer.

3. The Authorized ETAD Medical Director (AEAMD)/BHMD/designee shall be responsible for notifying the Division of EMS of ETAD personnel who are removed from inactive status on the first day of the month following the reactivation.

Approved:

Administration **Medical Director**

SUBJECT: EMT TRAINING PROGRAMS **Date: 07/01/02**

I. **Authority:** Health and Safety Code, Sections 1797.170, 1797.208 and 1797.214, Division 2.5.

II. **Purpose:** To establish a mechanism for application and approval of EMT Basic training programs in San Diego County.

III. **Policy:**

A. All EMT Basic training programs must meet the requirements of the California Code of Regulations, Title 22, Division 9, Chapter 2, pertaining to EMT Basic training program approval, and the County of San Diego Division of Emergency Medical Services' (EMS) requirements listed in the attached training program application.

B. All EMT Basic training programs must have approval of the County of San Diego Health and Human Services Agency, Division of Emergency Medical Services (EMS) prior to the program being offered. To receive program approval, requesting training agencies must apply for approval to EMS and submit all materials listed on the "Check List: Emergency Medical Technician Basic Training Program Application".

C. Program approval or disapproval shall be made in writing by the Health and Human Services Agency, Division of Emergency Medical Services to the requesting training program within a reasonable period of time after receipt of all required documentation. This period of time shall not exceed three (3) months.

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Administration **Medical Director**

D. The Health and Human Services Agency, Division of Emergency Medical Services shall establish the effective date of program approval, in writing, upon the satisfactory documentation of compliance with all program requirements.

E. Program approval shall be for four (4) years following the effective date of approval and may be renewed every four (4) years, subject to the procedure for program approval specified in Section C, above.

F. All approved EMT Basic training programs shall be subject to periodic review including, but not limited to:

1. Periodic review of all program materials.
2. Periodic on-site evaluation by the Division of Emergency Medical Services.

G. All approved training programs shall notify the Division of Emergency Medical Services, in writing, in advance, when possible, and in all cases, within thirty (30) days of any change in course content, hours of instruction, course director, and program director or program clinical coordinator.

H. All approved training programs shall report, in writing, the name and address of each person receiving a course completion record and the date of course completion to the Division of Emergency Medical Services within fifteen (15) days of course completion.

I. Noncompliance with any criterion required for program approval, use of any unqualified teaching personnel, or noncompliance with any other applicable provision of the above may result in withdrawal, suspension or revocation of program approval by the Health and Human Services Agency, Division of

Emergency Medical Services subject to the provision that an approved EMT Basic training program shall have a reasonable opportunity to comply with these regulations, but in no case shall the time exceed sixty (60) days from date of written notice to withdraw program approval.

Approved:

Administration **Medical Director**

SAN DIEGO COUNTY EMS AGENCY

APPLICATION FORM

EMERGENCY MEDICAL TECHNICIAN BASIC TRAINING PROGRAM

1. Name of Institution Agency _____

   Street _____

   City _____

   Contact Person _____

   Telephone Number _____ Extension _____

2. Personnel:

   * Program Director ( ) _____

   * Clinical Coordinator ( ) _____

   * Principal Instructor(s) ( ) _____

   ** Teaching Assistants ( ) _____

3. Course Hours:

	Basic Course	Refresher
Didactic/Lab (min. 100 hrs.)	( )	( ) (min. 24 hrs.)
Clinical (min. 10 hrs.)	( ) N/A	

4. Units of Credit: _____

5. Text: _____

* Provide qualifications on appropriate forms for each person.
** Provide list of names and lecture subjects.

SAN DIEGO COUNTY EMS AGENCY

CHECK LIST: EMERGENCY MEDICAL TECHNICIAN-BASIC TRAINING PROGRAM APPLICATION

		CHECK ONE		
	MATERIALS TO BE SUBMITTED	ENCLOSED	TO FOLLOW	FOR COUNTY USE ONLY
1.	Letter to EMT Basic approving authority requesting approval. 100066(a)			
2.	Check list for EMT Basic Program approval.			
3.	Application Form for Program Approval.			
4.	Program Director Qualification Form. 100070(a)			
5.	Program Clinical Coordinator. Qualification Form 100070(b)			
6.	Instructor Qualification Form. 100070(c)			
7.	Teaching Assistant(s) 100070(d) Submit names and subjects assigned to each Teaching Assistant.			
8.	Copy of written agreement with (1 or more) Acute Care Hospital(s) to provide clinical experience. 100068 and/or			
9.	Copy of written agreement with (1 or more ambulance agency(ies) to provide field experience.			
10.	Statement verifying usage of the State EMT Basic curriculum.			
11.	Basic course description, including:			
	a. Statement of course objectives			
	b. At least six (6) sample lesson plans			
	c. Course outline (if different than the State EMT Basic curriculum format).			
	d. Performance objectives for each skill			
	e. At least ten (10) samples of written questions and at least six (6) samples of Skills Examinations used in periodic testing			
	f. Final Examination (written and skills).			
12.	Refresher course description, including:			
	a. Statement of course objectives			
	b. At least six (6) sample lesson plans			
	c. Course outline			
	d. Performance objective for each skill			
	e. At least ten (10) samples of written questions and at least six (6) samples of Skills Examinations used in periodic testing			
	f. Samples of Final Examination ten (10) written and six (6) skills questions.			
13.	Class schedules; places and dates (estimate if necessary) a. Basic Course b. Refresher Course			
14.	Copy of Course Completion Certificate **100079** (basic and refresher)			
15.	Copy of liability insurance on students			
16.	Table of contents listing the required information on this application, with corresponding page numbers. **100066(b) (12)**			

SAN DIEGO COUNTY EMS AGENCY

EMT-BASIC INSTRUCTOR QUALIFICATIONS

Institution: _____

Check One
Program Director _____
Clinical Coordinator ___
Principal Instructor ____
Teaching Assistant _____

1. **Name: _____**

2. **Occupation: _____**

3. **Professional or Academic Degrees Held:**

   a. _____

   b. _____

   c. _____

4. **Professional License Number(s):**

   a. _____

   b. _____

   c. _____

5. **Emergency care related education within the last five (5) years:**

Course Title	School	Course Length	Date Completed
a.			
b.			
c.			

6. **Emergency care related experience (academic or clinical) within the last (5) years:**

Position	Duties	Organization	Dates
a.			
b.			
c.			

7. **On the attached pages, initial to the left each subject this person is assigned to teach.**

Approvals:

_____ Program Director

_____ Clinical Coordinator

SUBJECT: EMT-I Certification/Recertification **Date: 7/1/98**

I. Authority: Health and Safety Code, Sections 1797.170, 1797.175 and 1797.210.

II. Purpose: To establish the requirements for EMT-I certification/recertification in San Diego County.

III. Policy:

A. To be eligible for certification as an EMT-I in San Diego County, the candidate must meet the following criteria:

1. Initial Certification: Must hold a valid EMT-I Basic Course Completion Record from an approved EMT-I course in the State of California and pass predetermined standards, and the EMT-I Certification Examination. Application for certification must be made within two (2) years of being issued the Course Completion Record.

2. Recertification:

   a. Hold an EMT-I Certificate in the State of California which is current, and

   b. Successfully complete an approved refresher course within the two (2) years prior to application for recertification, or

   c. Complete 24 hours of approved continuing education (CE) within two (2) years prior to application for recertification.

   d. Successfully complete EMT-I Certification Examination every four (4) years.

   e. Candidates who allow their EMT-I certification to lapse for more than thirty (30) days shall be required to successfully complete the EMT-I Certification Examination as part of the recertification process, regardless of where they are in the four (4) year test cycle.

3. Challenge:

   a. The following individuals are eligible to take the EMT-I Certification Examination:

      1. R.N., L.V.N., or P.A., or EMT-P currently licensed by the State of California.

Approved:

Gail F Cooper — **Administration**

M.L. McClain MD — **Medical Director**

2. An individual who has possessed a valid EMT-I certificate in California within the last four (4) years and has completed a refresher course within the previous two (2) years, or has completed 24 hours of approved CE within the previous 2 years.
3. An individual who has possessed a valid California EMT-II certificate and has completed a refresher course or 24 hours of approved CE within the previous two (2) years.
4. An individual who possesses or has possessed within the last four years, an out-of-state or National Registry EMT-I (Basic) certificate.
5. An individual who possesses or has possessed a current out-of-state EMT-Intermediate.
6. An individual who has documentation of successful completion of an out-of-state EMT-I training course or EMT-I refresher training course, within the last two (2) years which meets the California EMT-I regulatory requirements.
7. An individual who has documented evidence of having successfully completed an emergency medical service training program of the Armed Forces or Coast Guard of the United States within the preceding two (2) years which meets the D.O.T. EMT-I Course Guidelines.
8. Special applicants shall be evaluated for authorization to take the exam, on a case by case basis by the EMS Medical Director.

b. Candidates qualifying to challenge under the above requirements shall complete an EMT-I refresher course prior to taking the certification examination.

c. Individuals possessing a current National Registry of EMT basic, intermediate, or paramedic card, need only complete the San Diego County EMS System orientation workshop. Once completed, they will be issued a San Diego County certification valid until the expiration date of the National Registry

Approved:

Gail F Cooper

Administration

M.D. [illegible]

Medical Director

card.

d. Challenge candidates who fail either portion of the certification examination must complete a basic EMT-I course, prior to re-taking the examination.

B. The EMT-I Initial Certification Examination is a competency based written and skills examination approved by the EMS Medical Director, consisting of two (2) parts.

1. A written examination consisting of 150 multiple choice questions. Individuals must attain a minimum grade of 70%. This exam has been developed by the National Registry of EMTs, based on current U.S. Department of Transportation standards.
2. A competency based skills examination consisting of nine (9) skills which meet the requirements listed in the California Code of Regulations, Title 22, Division 9, Chapter 2, Section 100079(g) and selected from the EMT-I Skills Manual compiled and edited by the San Diego County Division of Emergency Medical Services.
   a. Individuals who fail one (1) skill must successfully complete all remaining skills before being allowed to repeat the failed skill.
   b. A failure on the skills portion of the Certification Examination consists of either:
      1. failing one single station twice, or
      2. failing two single stations once
3. Individuals who do not successfully complete either the written or skills portion of the Initial Certification Examination may retake the exam as often as needed within two (2) years of course completion.
4. Upon successful completion of both portions of the Certification Examination, individuals may apply

to the Health and Human Services Agency, Division of Emergency Medical Services for a California EMT-I Certificate.

C. The EMT-I Recertification exam is a competency based written and skills exam, approved by the EMS Medical Director, consisting of two (2) parts.

1. A written exam consisting of 150 multiple choice questions. Individuals must attain a minimum grade of 70%. This re-assessment exam has been developed by the National Registry of EMTs based on current U.S. Department of Transportation standards.
2. A competency based skills examination consisting of four (4) skills which meet the requirements listed in the California Code of Regulations, Title 22, Division 9, Chapter 2, Section 100081.

Approved:

Gail F Cooper

Administration

M.L. McCann MD

Medical Director